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Determining the relationship between moral waivers and Marine Corps unsuitability attrition

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THESIS

DETERMINING THE RELATIONSHIP BETWEEN MORAL WAIVERS AND MARINE CORPS UNSUITABILITY ATTRITION

by

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March 2008

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DETERMINING THE RELATIONSHIP BETWEEN MORAL WAIVERS AND MARINE CORPS UNSUITABILITY ATTRITION

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ABSTRACT

This research examines the effect of moral waivers on the probability of unsatisfactory service separation in the Marine Corps. The primary focus of this study is to determine whether recruits who require one or more moral waivers are significantly more likely to attrite. The secondary purpose of this study is to investigate whether a certain combination of factors or demographic characteristics exacerbate the effect of moral waivers. This thesis used Total Force Data Warehouse cohort files from fiscal years 1997 to 2005. Multivariate probit models were used to analyze the effects of moral waivers on unsatisfactory service separations.

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I would like to thank my devoted family for their unwavering support during this process. Without the love and devotion of my wife Lori and our children I could never have completed my studies. I would also like to thank my Thesis advisors Dr. Elda Pema and CDR Bill Hatch (Ret) for there boundless patients and constant guidance. Without their experience and knowledge this entire endeavor would have not have been productive. Finally, the entire faculty and staff of the Naval Postgraduate School has immeasurably enhanced my educational experience.

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I. INTRODUCTION

The recruiting and retention challenges facing the Marine Corps continue to grow. Currently, the goal of the Marine Corps is to increase the end strength from 184,000 in 2007 to 202,000 by 2011, representing a total increase of 18,000 in four years (CBO, 2007). In the face of a favorable civilian economy and an extended war, meeting the end strength goals would require the Marine Corps to increase both its accessions (recruits) and retention.

Studies have shown that a one percent decrease in overall attrition saves as much as 2.4 million dollars in additional recruiting and training costs (CNA, 2006). The Congressional Budget Office (CBO) estimates the Marine Corps total enlisted personnel cost to be $56,000 per person, per year.[1] The same report estimates that this increase in end strength will cost the Marine Corps $10 Billion in personnel costs alone.[2]

It is necessary to have a clear understanding of the factors that increase the risk of attrition as well as the tradeoffs associated with mitigating this risk. Some observed background characteristics associated with an increased risk of attrition are gender (female), low educational attainment, and low scores on the Armed Services Vocational Aptitude Battery[3] (ASVAB). Recruiting applicants without attrition risk factors is significantly more expensive than recruiting applicants who have characteristics that place them in a moderate risk category but still have a relatively high propensity for successfully completing their enlistment contract.

In an effort to maintain a high quality all volunteer military force the Department of Defense (DoD) has established guidelines that prohibit individuals with certain characteristics to be admitted into the United States Military. However, in certain cases

[1] CBO cost estimates used data from Administrations 2008 budget request.

[2] CBO cost estimates included Regular Military Compensations, as well as projected recruitment and retention bonuses.

[3] The ASVAB is a series of 8 tests which all applicants are required to take in order to determine there propensity for learning various skills the test battery includes: Word Knowledge, Paragraph Comprehension, Mathematical knowledge, Arithmetic reasoning, General Science, Mechanical comprehension, Electronics information, and Auto and shop information.

the DoD allows individual services to deviate from these guidelines. This gives each service the flexibility to recruit individuals requiring waivers of policy to serve. These waivers fall into one of several categories. Medical waivers are issued to applicants with pre-existing conditions that may limit the individual's ability to serve in austere or rigorous environments. Physical waivers are required for individuals who do not meet service standards for height, weight, or fitness level. Mental waivers are required for applicants who score low on the ASVAB or fail to meet educational requirements. Moral waivers[4] are necessary if an applicant has committed a criminal offense prior to enlistment.

A. FORCE STRUCTURE

The Marine Corps continues to struggle to find the balance between maintaining high physical and moral standards and meeting the manpower requirements within the constrains of a limited recruiting budget. Many factors such as operational tempo, a strong national economy, changes in force structure, and increasing costs affect the Marine Corps' acceptable level of risk in accessing applicants that are likely to not complete their enlistment contracts. The performance of these high-risk individuals may also be affected by the economic and operational environment they serve in. These factors play a role when faced with a prolonged conflict, and dynamic force structure. Inquiring whether those who require moral waivers serve as well as those who do not will be critical to meeting the operational and force structure missions of the Marine Corps.

Examining the issue of moral waivers is important for several reasons. Admitting large numbers of applicants that have violated civilian laws may have a destabilizing effect on retention and military order and discipline in the highly structured lifestyle of the military. Requiring a moral waiver might indicate that a recruit has a sub-par moral character that might emerge in a high stress combat situation. Additionally, the likelihood of these pre-service offenders re-offending once in the military must be evaluated. An influx of criminals into the volunteer force may damage the military's

[4] See Appendix A for complete list of Offenses that the Marine Corps requires a moral waiver for or does not allow a waiver for.

public image and cause higher quality recruits (or adult influencers) to steer away from military service, or drive out those already in the service reducing the overall quality of the service, thus further complicating the efforts to reach manning goals.

These potential effects must be weighed against the possibilities that the majority of those who require moral waivers are otherwise high quality applicants. In some cases a moral waiver maybe an indication of an assertive committed individual that will outperform peers in a military environment. Additionally, applicants requiring waivers generally have lower opportunity cost in civilian life and can be recruited and retained at a lower cost than those with greater civilian opportunities; thus making the recruiting of ex-offenders a beneficial program for the Marine Corps. An additional benefit to the recruit is the potential to enter an organization in which they can excel and potentially earn more that what they would have in the civilian market. Society as a whole benefits from both a stronger military and the increased productivity of moral waiver applicants.

To balance the two sides of the moral waiver issue the Marine Corps applies a "Whole Person concept" approach to the granting of waivers. "Under this concept, an applicant's qualifications are compared with past performance with the intent of calculating potential effectiveness in the Marine Corps." (MCO P1100.72C, 2004) Before a decision is made to grant or deny a waiver the severity and circumstances of the legal infraction is weighed against other observable traits such as ASVAB scores, physical fitness, and educational attainment. Additionally, any level of the recruiting chain may deny a waiver but only the designated approval authority can grant an applicant a moral waiver[5]. This means that if an individual has committed a pre-service felony, the Commanding General of the Marine Corps Recruiting Command (MCRC) must approve the moral waiver. However, if the Commanding Officer of the Recruiting District (MCD) feels that the applicant represents too high of a risk, the waiver can be denied at that level. But if the MCD Commanding Officer feels the applicant possesses other qualities that make up for the prior offense then the waiver is forwarded. Each Command level

[5] See Appendix B for waiver authority levels.

makes an independent assessment of the applicant's situation until it reaches the approving authority for final dispensation.

Obviously there is no easy solution to granting moral waivers. The answer does not lie in a carte blanche decision to either let all ex-offenders serve or bar them all from service. Determining the appropriate place to draw the line at which granting a moral waiver is favorable for the service, the individual, and society is imperative to maintaining a well-manned and effective volunteer force. Finding what observable individual characteristics indicate that an applicant has overcome a past moral transgression is a difficult question and the focus of this study.

B. OBJECTIVES

1. Primary Research Question

Do accessions that require one or more moral waivers have significantly higher attrition rates in the Marine Corps?

2. Secondary Research Questions

a. What combinations of background characteristics exacerbate the effect of moral waivers?

b. Are individuals who are granted moral waivers more likely to separate for misconduct? Are there differences in attrition rates by demographics (gender, race, marital status, dependents)?

c. Has the current Global War on Terrorism (GWOT), affected the rate of attrition for waiver recipients?

d. Does a higher Armed Forces Qualification Test (AFQT) score mitigate the effect of waivers on attrition rates?

e. What effects do variables such as age at enlistment, number of dependents, race, gender, or term of enlistment has on attrition?

f. Does recruiting from Marine Corps Recruiting District (MCD) or Marine Corps Recruiting region (MCR) have an impact on waiver related attrition rates?

C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

1. Scope

This research will examine the differences in attrition rates and unsatisfactory separations for recruits with moral waivers compared to those who access without any waivers. The analysis will not stop at first term attrition, but will focus on unsatisfactory separation at any point during a recruit's career. This is done for two reasons; first, few unsatisfactory service separations occur after the first four years of service, and there may only be a weak correlation between pre-service conduct and mid service separation. Second, the effects of career force[6] attrition are significantly greater than first term attrition, because they are seen as the stable manning base on which accession and retention decisions are made. Additionally, the negative effects of un-satisfactory service by senior Marines on junior Marines are profound. For these reasons, examining the factors of all unsatisfactory service separations is critical. Focusing solely on first-term attrition would ignore the potentially bigger problem of career recruits separating at critical points where replacement is harder from the point of view of the military.

This study also examines those who completed one contract, but received an unsatisfactory reenlistment code. The research examines enlisted accessions, waivers, and separations data obtained from the Marine Corps Total Force Data Warehouse (TFDW) for fiscal years 1999 to 2005. The time of year a recruit ships to boot camp, will not be examined because this is not seen as an indicator of attrition itself. Brookshire and Hattiangadi (2006) found that recruits who enter training during the summer months (June, July, August, and September) have significantly lower entry-level training attrition. This seasonal effect may be related to the high percentage of graduating high school seniors that report to boot camp in those months, as apposed to the high percentage of less qualified applicants (potentially high school dropouts) accessing in other months.

[6] Career Force is a term used by Marine Corps Manpower planners to designate those Marines that have successfully completed an initial enlistment and are considered fully qualified and likely to re-enlist again. They represent the more senior proportion of the force.

2. Limitations

All waivers are initiated from information voluntarily disclosed by the applicant and recruiter or the result of police record checks. This creates a potential for a self reporting bias on the part of applicants. Even recruiters who are struggling to meet recruiting goals may have an incentive to underreport behavior that triggers a waiver. This bias could result in significant under- or over-estimation of the effects of moral waivers on attrition. If a significant number of those who undergo attrition should have received waivers but failed to report conduct that would lead to a waiver, the overall effects of waivers on attrition could be seriously underestimated. However, if more serious or more frequent offenders tend to report behavior leading to a waiver, then the effects of the moral waivers on attrition could be overestimated.

The effect of this self-reporting bias was addressed in an August 2006, GAO report that reviewed DoD's need for better data on possible recruiting irregularities[7]. The GAO noted that, while DoD-wide accessions decreased by eight percent from 243,544 to 215,198 from FY 2004 to 2005, the number of allegations of recruiter irregularities increased by 66 percent from 4,400 to 6,600 during the same period. The DoD nationwide rate of recruiters with substantiated allegations in FY 2005 was 4.7 percent of the 13,421 recruiters on the street. The Marine Corps rate of substantiated allegations was considerably lower at 1.2 percent. This indicates that not only is the occurrence of recruiter fraud low, but that Marine recruiters screen and report potential issues more closely than other services. Therefore, the moral waiver incidence in the Marine Corps should have a high degree of accuracy.

The same study also found that Marine Corps applicants are also less likely to withhold prior infractions from recruiters without detection. The GAO cited several potential reasons for this. First, Marine recruiters have the longest formal school compared to all other services, thus giving them a longer time and more opportunities to identify potential behavioral problems. Second, Marine applicants undergo a very

[7] GAO defined irregularities as all allegations of misconduct or malpractice made by an applicant, agency, or parent even with out substantiation.

intense “moment of truth” after arriving at one of the Marine Corps Recruit depots (MCRD). During this interview the applicants are treated like recruits not applicants. The GAO noted that this approach seems to be very effective at revealing additional reasons for waivers. This study finds that almost four percent (11,205) of all waivers granted are requested by the MCRD following the “moment of truth.”

This study only looked at data collected from waivers that were approved on applicants that reported to recruit training. No data was analyzed on waivers that were requested and not approved or on individuals that received a waiver while in the Delayed Entry Program (DEP) and subsequently left the DEP before reporting to recruit training. While pre-service attrition is an important area of research, this study focuses on attrition that occurs during and after initial training due to the monetary and non-monetary cost to both the recruiting command and the operating forces.

3. Assumptions

In addition to the supported assumption that the self-reporting bias is relatively small, this study also assumes that it is consistent from year to year. It is possible that changing economic and operational factors may affect the degree of self-reporting bias over time. However, the GAO 1999 report on improving the military’s screening of criminal records revealed that there were no significant time effects on the rate of self reporting of prior infractions.

This study also assumes that the Marines Corps’ separation policies are uniformly applied across the entire service. Changes in Commanding Generals (CG) can have a dramatic effect on the way separation policy is applied to thousands of Marines. If a CG establishes an informal policy asserting that every available leadership and disciplinary action be employed before a Marine is processed for discharge, then not only will the time between offenses and separation dramatically increase but there is the potential that thousands of separations packages may never be submitted even though the situation is within the established separation criteria. Because the Marine Corps grants such latitude to commanders to deal with the discipline and conduct of their units, a single senior commander can have a significant effect on overall attrition rates.

This study attempts to deal with this problem by capturing those who have completed a four-year enlistment but received unsatisfactory re-enlistment codes. The two primary reasons for this are: (1) the vast majority of Marines who receive unsatisfactory re-enlistment codes should have been separated, but were retained due to external factors such as operational tempo or a commander's discretion; (2) the non-monetary cost of the eventual separation or non-reenlistment of these individuals may be greater the later in the career they separate[8]. This implies that the effect of retaining recruits whose conduct warrants separation may be more detrimental to a unit than separating them without a replacement.

D. ORGANIZATION OF THE STUDY

Chapter II of this study will review prior studies that have addressed attrition and its correlation to waivers. Chapter III will describe the data files and define the dependent and independent variables used in the analysis. Chapter IV will describe the data and conduct a preliminary investigation of summary statistics for the variables of interest. Chapter V presents the analytical regression models used to predict the effects of each variable on the likelihood of attrition. Chapter VI provides conclusions and recommendations based on the analysis.

[8] Non-monetary costs are considered to be leadership's time spent on disciplinary, additional administrative tasks, negative effect on other Marines, and a lack of return on investment from poor performance.

II. LITERATURE REVIEW

A. DATA COLLECTION AND POLICY ISSUES

1. Overview

All branches of the military need an ongoing influx of manpower and therefore must take into account the causes of attrition. However, it has only been in recent years that the quantity and type of data necessary to evaluate the various factors leading to attrition have become available for serious study. The progression from focusing on demographic characteristics such as gender, race, education, and aptitude scores has been hampered by a lack of consistent data. But, several studies dating back to 1999 show that the GAO has addressed the need to standardize the practices and policies the services use to collect data.

2. Data Issues

In February of 1999 the GAO released two separate reports that highlighted the importance of improved data collection in proper recruit screening and in lowering the attrition rate. In a testimony presented to the Senate subcommittee on Personnel for the Armed Forces, Mark Gebicke, GAO Director of Military Operations and Capabilities Issues Affairs Division, cited recommendations made in four previous GAO reports[9]. One of the three recommendations he highlighted to congress was to improve the medical, physical and criminal screening of incoming recruits (Gebicke, 1999). During

[9] The four reports cited by Director Gebicke include:

Military Recruiting: DoD Could Improve Its Recruiting Selection and Incentives System (GAO/NSIAD-98-58, Jan. 30 1998).

Military Recruiting: New Initiatives Could Improve Criminal History Screening (GAO/NSIAD-99-53, Feb. 23 1999).

Military Attrition: DoD Could save Millions by Better Screening Enlisted Personnel (GAO/NSIAD-97-39, Jan. 15, 1997).

Military Attrition: Better Date, Coupled With Policy changes, Could help the services Reduce Early Separations (GAO/NSIAD-98-213, Sep. 15 1998).

his testimony he acknowledged that the DoD had made progress in recruit screening by using fingerprint screening to find possible criminal records hidden under alias.

Every service relies primarily on applicants self-reporting a criminal history, and the GAO's 1999 report found that the services are providing up to 14 opportunities to disclose information to seven different officials. However, there are several obstacles to gathering complete data on an applicant's criminal history. First, federal, state, and local policies greatly restrict the release of criminal behavior by minors. Second, delays in obtaining information on criminal histories often result in applicants having already been shipped to recruit training forcing officials to separate them from active duty for fraud. Finally, in accordance with federal regulations (28 C.F.R. 20.32), the federal database does not contain records of minor offenses, such as minor traffic violations or drunkenness (GAO, 1999). Therefore, for several categories of waivers there may be no administrative ways to investigate infractions.

Putka et al. (2004) compared an Electronic Personnel Security Questionnaire (EPSQ) given to Marines in service requesting security clearances against enlistment contracts to determine the number of applicants that withheld information at the time of enlistment. They found that in a sample of 3,430 Marines, 30 had admitted to adult felonies and received waivers for them, but 11 additional Marines admitted to having committed a pre-service adult felony but did not receive a waiver for it. Because the Marine Corps requires waivers for any felony, the conclusion is that this information was withheld from officials.

3. Policy Issues

The issue of recruiting pre-service offenders was addressed by Michael Boucai in his paper "Balancing Your Strengths against Your Felonies: Considerations for Military Recruitment of Ex-Offenders." This article looked at the effectiveness of the current DoD practices for assessing candidates with legal infractions that require a moral waiver in order to enter military service. Additionally, it addressed the potential benefits to the services, ex-offenders, and society in general if the military took a more candid and proactive approach to recruiting ex-offenders. The author cited numerous government

and military studies to illustrate the possible degree of unreported infractions the military is passively allowing. By adding this estimate to the growing number of accessions that received moral waivers the author illustrates that the military is already currently enlisting thousands of ex-offenders.

Boucai concludes that the military recruits thousands of known criminals, and that this figure may be an understatement, since the military potentially fails to detect half of those who should receive waivers. In his words: "the military's current system, based on 'winks and nods', does not allow for the development of strategies that will get the most benefit from this growing population." This article also addresses the issue of trying to determine the costs and benefits of recruiting those with a history of violating the law and the long-term societal benefits associated with the full re-integration into society of ex-offenders. Military service helps mitigate the "…death sentence in the job market"[10] that often accompanies conviction of a serious crime. This article draws attention to the implications of recruiting individuals with criminal histories for the entire society, not only from the military's point of view.

By not attempting to estimate a value for the potential benefits of targeting ex-offenders, the author stays clear of the numerous measurement bias problems that would be associated with extensive empirical measurements. The author also stays within the current and generally accepted definitions of satisfactory service. This allows the article to make its point that the benefits to society, the service, and the individual should be considered without getting mired in the validity and assumptions of quantifying these abstract aspects.

The article does not address the fact that the military's current criteria of evaluating the "whole person" takes into account other factors that affect the individual's chance of successfully completing their enlistment. An applicant with one felony conviction that has completed high school, has a high AFQT score, and has no dependants, has a different risk of attriting compared to a high school dropout, with a low AFQT score, three dependents and a felony conviction. In this case, the first applicant

[10] D.C Congressional Delegate Eleanor Holmes Norton.

would be given favorable consideration for accession, not based on a "wink and a nod," but on the total sum of their observable traits that demonstrate a risk of attrition. This criterion not only benefits the service but also increases the chances that society and the individual will maximize the potential benefits. For individuals with behavioral problems entering a culture with standards so rigid that they fail to meet them, may cause more harm than good. This scenario will only create a need for additional disciplinary actions leading to additional barriers for the individual to overcome. In addition, dishonorable separation may harm an individual's chances of succeeding in the civilian market. The article does point out that the military has an obligation to screen those who demonstrate characteristics that could put them at risk of unsatisfactory service.

The article raises several valid arguments for the inclusion of ex-offenders into the military's target recruiting population but does not offer any means to accomplish this in a more effective way. In addition, the policy considerations only address the potential benefits without an evaluation of the potential negative spillover effects from a policy change.

B. BOOT CAMP ATTRITION

1. Overview

In the 2006 study "Emerging Issues In the USMC Recruiting: Comparing Relative Attrition Risk Among Marine Corps Recruits" the CNA attempted to group the Marine Corps accessions into risk categories by taking a look at both demographic and contract-related factors. This study analyzed trends in the Marines Corps boot camp attrition using accession cohort data files from fiscal year (FY) 1992 to 2005[11]. The data set contained 339,843 male and 23,800 female accessions. The study analyzed the attrition rates for each gender separately.

[11] The study defined boot camp attrition as separation from one of the MCRDS within 6 or 12 months of accession.

The data used for this study contained over 363,643 accessions over 13 years, accounting for over 84 percent of all Marine Corps accessions. This provided a large statistical base to analyze attrition. Additionally, by only evaluating those risk groups that contained more than 500 accessions for males and 200 for females the authors reduced the likelihood of small sample sizes within a particular group driving their results.

The authors limited the study to recruits that signed four-year contracts, which represented 84 percent of the sample. However, it should be noted that recruits who sign longer enlistment contracts are usually entering more technical occupations that also have higher educational and AFQT score requirements. The majority of the 68,991 accessions removed from the study would have been predominantly high quality applicants recruited as seniors. As a result, the study does not generate any implications for the attrition of this subsample.

The study employed an extensive list of controls. In particular, to control for educational background, the study separated the sample into three educational tiers. TIER I-H included high school diploma graduates, undergraduate and/or graduate degree holders, and professional nursing degree holders. TIER I-OTHER included recruits who received diplomas through adult education and first-semester-college recruits. TIER II/III included recruits who were home-schooled, received alternative credentials or certificates of completion, and high school dropouts. In addition, the study included two categories of ability based on AFQT scores. The first group included those with AFQT scores of 50 and above (Categories I, II, and IIIA), whereas the second group included those with AFQT scores below 50 (Categories IIIB and IV). The study also included controls for age and an indicator for whether the recruit met the weight-for-height retention standards. In addition, a number of controls for the type of contract and accession were also included. First, the study controlled for the time that a recruit spent in the Delayed Entry Program (DEP). This was entered as a category that indicated whether the recruit spent three or more months in DEP. In addition, the study controlled for the time of the year when the recruit accessed — October, November, December, or January (ONDJ),

February, March, April, or May (FMAM), or June, July, August, or September (JJAS). Finally, the study controlled for whether the recruit signed up while being a senior in high school.

The authors acknowledge that other studies have found factors such as race, ethnic background, and time of month a contract is signed to have a significant correlation to attrition. However, these factors were not considered. The authors contended that by including those additional variables, the classification groups would have become too small to statistically analyze. They also contend that the criteria they chose fit closely with the groups recruiters already target.

The authors admit that results are historically based and theorize that they may be subject to a time effect. However, the authors note that they found little fluctuation in group ranking over time. They also admit that recent upward trends in attrition seen in their cohort data are in line with historical seasonality and that there is insufficient data to indicate any true short term changes.

In order to determine the effect each variable had on attrition, they performed a logistic regression on both male and female recruits separately. Table 1 presents the marginal effects on attrition as related to the omitted category in each section.

Table 1. Estimated effects on boot camp attrition: Accessions from FY 92' through 2005 (adapted from Brookshore, Hattiangadi, 2006)

Independent Variable	Men	Women
Tier I	-0.070 **	-0.051 **
Tier I, Other	-0.022 **	-0.033
Tier II/III	Ommitted	Category
Category I-IIIA	-.026 **	-0.039 **
Category IIIB- IV	Ommitted	Category
ONDJ accession	0.008 **	0.018 **
FMAM accession	0.015 **	0.038 **
JJAS accession	Ommitted	Category
3 or more months in DEP	-0.018 **	-0.035 **
17-19 years if age at accession	-0.024 **	-0.020 **
20+ years of age at accession	Ommitted	Category
Met retention height-for-weight standard	-0.039 **	-0.010
Signed enlistment contract as a senior	-0.012 **	-0.018 **
MCRD Parris Island	-0.001 **	NA ***
White	Ommitted	Category
Black	-0.015 **	-0.041 **
Hispanic	-0.051 **	-0.088 **
Other	-0.034 **	-0.058 **

* This table shows marginal effects from a logit regression for boot camp attrition. The marginal effects are relative to the omitted category. Regressions also included fixed fiscal year effects. All recruits had 4-year initial enlistment contracts.
** Indicated statistical significance at the 5-percent level.
*** All female recruits go to boot camp at MCRD Parris Island.

Of the 9 categories of variables they include in the regressions, the first seven characteristics were used to create 288 possible combinations an applicant could possess. The results presented were from groups that had at least 500 accessions, reducing the number of groups to 78 but still accounting for 94 percent of the original male sample. The female results were limited those groups that had 200 accessions, creating 29 groups accounting for 83 percent of the original female sample. These groups were then ranked by likelihood of attrition for male and female recruits separately.

By grouping the above characteristics, this study created a tool that recruiters can use to assess the relative attrition risk a given applicant has based on historical analysis. This allows recruiters to better allocate their time and resources on those applicants who

have the best chance to successfully complete boot camp. It also provides recruiters with a tool to identify those who are at high risk and take steps to mitigate them. This increases the recruiters' potential to identify and recruit successful Marines.

For both male and female recruits the study found that the applicants with the lowest risk of attrition had the following characteristics:

1. Signed contracts as seniors
2. Shipped to boot camp in the months from June to January
3. Were in education TIER I and mental category I-IIIA
4. Met weight standards

The group of factors that posed the most significant attrition risk for male recruits were:

1. Shipped from October to May
2. Spent less then 3 months in the DEP
3. Were in educational TIER I and Mental category IIIB-IV or Educational TIER II-III and mental category I- IIIA
4. Contracted at 20+ years of age

For Females the highest risk of attrition was correlated with:

1. Shipped from October to May
2. Did not contract as High School Senior
3. Were in educational TIER I and Mental category IIIB-IV
4. Shipped at 20+ years of age

By evaluating male and female recruits separately, the authors accounted for the significant difference between attrition factors for men and women as well as identified factors common to both groups such as contracting as a senior. While overall female attrition is almost double that of males, females who do not meet height and weight standards do not have a significantly higher attrition rate than those who do meet this standard. This again allows recruiters to better target their recruiting efforts.

The authors acknowledge that there are many other explanatory variables that are highly correlated to boot camp attrition. However they chose to limit this study to those variables that could be easily grouped, would provide group sizes large enough to be statistically analyzed, and match criteria that recruiters already used to screen applicants.

Based on these findings this study makes two recommendations: first, that the Marine Corps increase its focus on contracting applicants as seniors in high school; and second, that keeping those at a higher risk of attrition in the DEP longer may mitigate the other attrition risk factors. The correlation to some of the explanatory variables is very strong with no evidence of statistical tests that support their significances independently. For example, those who sign a contract as seniors in high school are systematically very likely to spend more then 90 days in the delayed entry program, be 17-19 years old, and be TIER I high school grads. Additional research may provide useful information by identifying characteristics that mitigate the risk of accepting older, lower scoring applicants after high school.[12]

C. EARLY SERVICE AND FIRST TERM SEPARATION

1. Overview

A great deal of attention has been given to the factors that affect attrition beyond the time line of initial training. While training attrition is costly and affects readiness, the effects of attrition on the operating force can be magnified by fleet losses. First, in training attrition the Marine Corps is not fully financially invested in the applicant, so money not yet spent on that individual's training is not lost as a result of their attrition. Second, operational units have not begun to rely on the skill sets and performance of these individuals. This effect is demonstrated by the fact the fleet attrition usually takes longer and consequently creates a longer gap in manning than the more streamlined training attrition cycle.

Fleet attrition may also be driven by different factors than training attrition. After the early separations arising from the physical and psychological adjustments that take place during initial training, more subtle factors may have a greater effect in the absence of the rigid environment of the training environment. For example, Putka et al (2004) find that during the first three months of service 99.9% of all Marine Corps attrition is

[12] Additional characteristics can include work history, race, family composition, etc.

due to non-moral factors but by 15 to 18 months of service 56.4% of all Marine attrition is attributable to moral separations (Putka et al., 2004 *pg 15*).

2. Eighteen Month Attrition

Demographic factor that affect 18-month moral and non-moral attrition in the Marine Corps are similar to those that drive boot camp attrition. Brookshire and Hattiangadi (2006) found that white female high school graduate recruits with AFQT categories III-B or below had the highest risk of attrition from initial training. However, 18-moth attrition rates for moral and non-moral causes were lower for Marines that were classified as Education Tier I than those in tier II or III.[13] For Tier I, the 18-month moral attrition rate was 3.4 percent while for Tier III, the moral attrition rate was 14.3 percent. For education Tier II, the non-moral attrition rate was 23.3 percent with only 12.5 percent attributed to tier one Marines (Putka et al., 2004, *pg. 18*).

Surprisingly, individuals that had a body mass index (BMI) that was considered to be underweight had higher moral and non-moral attrition rates at 18-months of service in the Marines Corps and in the entire DoD.[14] Marines with a BMI in the overweight category had a 3.1% moral attrition rate and 12.3% for non-moral attrition, while those in the normal range were at 3.9 and 12.5 percent respectively. The underweight categories had rates of 4.3 and 14.7 percent, respectively (Putka et al., 2004 *pg 18*).[15]

Studying 18-month attrition rates indicates that applicants with no pre-service transgressions (thus not requiring a waiver) had the lowest attrition rates. Those that had no waiver but had committed pre-service offenses had statistically higher moral and non-moral attrition rates than those who committed these offenses and received a waiver for it. As seen in Table 2 the attrition percentage rates for both moral and non-moral reasons

[13] Education Tier I includes high school graduates, whereas Tiers II and III include those who receive alternative credentials for high school completion, and those who drop out of high school.

[14] BMI is calculated by dividing weight in pounds (lbs) by height in inches (in) squared and multiplying by a conversion factor of 703. According to the Centers for Disease Control (CDC), a BMI below 18.5 is considered underweight, a BMI of 18.5 – 24.9 is considered normal, a BMI of 25.0 – 29.9 is overweight, and a BMI of 30.0 and above is classified as obese.

[15] Obese Marines had attrition rates of 2.3% (moral) and 16.1% (non-moral), but the sample size used to derive these rates was relatively small (only 709 separations).

that are statistically different from those with no transgressions are found in the violation but no waiver category of each waiver group.

Table 2. 18-Month Attrition Rates by Pre-Service Transgression (adapted from Putka et al., 2004)[16]

		Moral Attrition			Other Attrition	
Pre-Service Transgression / MCW Status	*N*	%	e^B Raw	e^B Control	%	e^B Raw	e^B Control
Minor Traffic Violations							
No Law Violations	3,385	2.8			10.5		
Violations-No Waiver	849	4.8	1.74**	1.49	11.8	1.14	1.02
Waiver	43	5.4	1.99	1.45	14.6	1.46	1.27
Serious Traffic Violations							
No Law Violations	3,390	2.8			10.5		
Violations-No Waiver	189	8.3	3.15**	2.26*	12.0	1.16	1.02
Waiver	28	4.3	1.58	1.18	18.5	1.93	1.74
Minor Non-Traffic Violations							
No Law Violations	3,386	2.8			10.5		
Violations-No Waiver	373	5.8	2.15**	1.69	13.3	1.31	1.20
Waiver	20	0.0	0.00	0.00	15.0	1.50	1.37
Serious Non-Traffic Violations							
No Law Violations	3,368	2.8			10.5		
Violations-No Waiver	201	7.1	2.65**	2.29*	17.0	1.75**	1.56*
Waiver	173	5.9	2.15*	1.78	12.2	1.18	1.03
Juvenile Felony Violations							
No Law Violations	3,387	2.8			10.5		
Violations-No Waiver	29	4.0	1.45	1.31	14.3	1.42	1.36
Waiver	52	4.5	1.65	1.39	14.3	1.42	1.36
Adult Felony Violations							
No Law Violations	3,389	2.8			10.5		

[16] The asterisks indicate in-service deviance rates that are significantly different from those with no pre-service transgressions. * indicates significance at the 5% level (two-tailed); ** indicates significance at the 1% level (two-tailed).
e^B Raw – Odds ratios without demographic controls in logistic regressions.
e^B Control – Odds ratios controlling for demographic variables in logistic regressions.

Violations-No Waiver	11	0.0	-	-	9.1	-	-
Waiver	30	8.0	3.02	2.58	17.9	1.85	1.43
Marijuana Use							
No Drug/Alcohol Use	3,035	2.1			10.4		
Marijuana Use-No Waiver	562	7.6	3.83**	3.30**	14.1	1.42*	1.30
Waiver	1,112	4.5	2.22**	2.13**	11.2	1.09	1.12

3. First Term Attrition

DEP, boot camp, and early service attrition represent a significant loss of investment to the Marine Corps, because the service has not recouped any significant portion of its initial investment. Unplanned separation at any point of service is costly for several reasons. First, the Marine Corps' training investment does not end after entry level and MOS training. Almost as soon as a new Marine arrives, additional investments in on-the- job training, leadership, and technical training begin. Therefore, even as the service recoups its initial investment, it continues to reinvest on further training. Therefore, the break-even point indicating the minimum time of service required to recoup the training investments is pushed out even farther. Second, late term separation has a significant impact on a unit's mission capabilities. It takes three years to replace an NCO with three years of experience that separated just before the end of his first term. That NCO takes with them experiences and qualifications that are accumulated during their time in the service. Finally, a senior Marine with unsatisfactory service may have a negative impact on junior Marines, since superiors often lead by example. An NCO in a supervisory role may unfavorably tip the scales for marginal Marines, and may also contribute to a non-reenlistment decision from high-performing Marines, thus magnifying a unit's personnel shortcomings.

Etcho (1996) looked at the effects of moral waivers on first-term unsuitability attrition. He found that for cohorts in FY 1988 to FY 1990 the characteristics that affect fist term attrition were similar to those of boot camp attrition. The largest overall demographic predictor he identified was educational tier. Those that were not high school graduates had a 10.05 higher probability of attrition for unsatisfactory service

before the completion of their first contract compared to high school graduates. Similarly, those in the Category IV mental group had a 7.41 higher attrition probability that those in mental group Category I or II.

Table 3. Predicted Probability of Unsuitability Attrition for Marine Corps Cohorts Combined (adapted from Etcho, 1996)[17]

Variable	Predicted Probability
Demographic	
Age	.71*
Male	-.94**
Black	.94*
Hispanic	-4.88*
Other	-.57
Non HSG	10.05*
CAT IIIA	2.29*
CAT IIIB	3.95*
CAT IV	7.41*
Moral Waiver	
Traffic	-.29
Less than 3 Non traffic offenses	3.45*
More than 3 Non traffic Offenses	.75
Serious law offenses	3.43*
Felony	5.35*
Drug	3.63*
Alcohol	3.27*
Fiscal Year (Base FY 91)	
FY 88	.83*
FY 89	.74**
FY 90	1.03*
* Significant at .01 ** Significant at .05	*** Significant at .10

These findings were similar to other studies analyzing attrition at different time horizons. While this study did not look at any contract- or service-related variables, such as time in DEP or whether a contract was signed while the recruit was a high school

[17] Naval Postgraduate School thesis. Etcho used 126,652 non-prior service accessions during fiscal years 1988-1991. The data were obtained from DMDC MEPCOM files.

senior, the results for demographic and waiver characteristics were similar to those found by Means (1983), Fitz (1998), and Flyer (1995).

The issue of pre-service drug use and its potential effect on attrition has been a significant topic in recent years. In June of 2005 an action memo to the Chief of Naval Personnel from the Personnel Readiness and Community Support Division Command (PERS-6), Millington TN stated that "In accordance with the 2004 Chief of Naval Operations tasking, the DoD needs to reduce the Navy's rates of drug attrition, overall attrition, and recruit higher quality individuals" (CNO, 2004). PERS-6 found that, of the 4,320 recruits that had previously tested positive for drugs, 2,028 attrited before completing their first contract, and that 85.6% (1,737) of those separations were due to testing positive for drugs while on active duty. Based on these findings, PERS-6 recommended that the Navy Recruiting Command "immediately cease enlisting subject individuals" (PERS-1, 2006).

However, a follow-on study in 2006 conducted by Andrew Jones and Geoffrey Fedak sponsored by the Navy Personnel Research Studies and Technical Division Bureau of Naval Personnel (NPRST/PERS-1) titled "A Brief Analysis of Pre-service Drug Abuse Waiver Attrition" concluded that the PERS-6 report "while technically accurate, does not afford decision makers with a comprehensive view of this issue and potentially offered misleading data to support their position" (Jones & Fedak, 2006). Table 4 presents the small percentages of those with pre-service drug use that separated for disciplinary reasons. The table indicates that 87.6 percent of the pre-service drug users had 12 or more years of education and possessed an above-average AFQT score of 59.9 (Jones & Fedak, 2006). Furthermore, they found that all pre-service drug users had above average performance markings and that 75 percent of the E-5 and above sailors received advance promotion recommendations on their performance evaluations (Jones & Fedak, 2006). They assert that, while there is an increased risk of attrition associated with pre-service drug use, these recruits have many positive attributes, including above-average aptitude and performance (for those who remain in service) and lower costs of recruiting.

Table 4. Navy Enlistees with Positive Pre-service Drug Tests Separating Prior to Completing their First Term of Enlistment (adapted from Jones & Fedak, 2006).

Narrative Description	Frequency	Percent
Pattern of Misconduct	29	1.1%
Misconduct	12	.4%
Disability	12	.4%
Personality Disorder	11	.4%
Court Martial	24	.9%
Completion of Service	107	3.9%
Reduction of Service	21	.8%
Does not total 100%. Insignificant cases not shown. (N= 4,320)		

D. MEASURING IN-SERVICE DEVIANCE

1. Overview

In addition to the substantial monetary cost directly attributed to attrition, unsatisfactory service is associated with considerable non-monetary costs, such as decreased unit morale and instability in the force structure resulting from gaps in performance by those serving in an unsatisfactory manner (Laurence, 1993). While it may be hard to quantify some of the costs of unsatisfactory service that is due to in-service deviance, some recent studies have attempted to measure it along with early separation.

Putka et al. (2004) investigated the effects of in-service deviance and unsatisfactory separation through the first 18 months of service. This study analyzed service records for 80,944 enlisted members from all four services (14,393 from USMC) for any evidence of in-service legal actions such as substance abuse, court martial, or

non-judicial punishment. The research revealed that, after 18 months of service, 68.9% of Marines with two or more disciplinary actions against them were still in service compared to 85.2% of their counterparts without a Non-Judicial Punishment (NJP) or courts-martial (Putka et al., 2004). Additionally, 22.6% of the sample with two or more disciplinary actions against them had separated from service due to a moral or legal infraction. The study's analysis of in-service deviance by demographic characteristics found that the group with the highest risk of offending while on active duty, included male African-American Marines in the lower educational and aptitude categories, who were unmarried and underweight (based on the BMI definition).

2. In-Service Deviance by Waiver Category

Putka et al. augmented the existing information on pre-service offenses with data collected from EPSQ. They found a significant number of service members that reported offenses in the EPSQ but did not admit to these infractions at the time of enlistment. They also found that a considerable number of recruits had not committed enough infractions to require a waiver, thus did not receive a waiver upon enlistment. Using this information, Putka et al. were able to compare incidences of in-service deviance between those who did not commit any pre-service offenses, those who did and received a waiver, and those who did but did not receive a waiver.

In the categories of Minor Traffic and Juvenile felony waivers they found no statistical difference between the rates of in-service deviance across all three groups. While in the category of serious traffic waivers only those who committed an offense but did not receive a waiver had significantly higher rates of deviance.

In the case of serious non-traffic and adult felony waivers, only those with waivers had a higher rate of in–service deviance than those with no transgressions. Recruits who used marijuana before enlisting had higher rates of in-service deviance, regardless of whether they received a waiver for marijuana use or not. Table 5 summarizes some of the statistical findings of the Putka et al. study.

Table 5. Rates of In-Service Deviance by Waiver Status (Marine Corps Sample) (adapted from Putka et al., 2004)[18]

Pre-Service Transgression	**N**	***% In-Service Deviance***	**e^B *Raw***	**e^B *Control***
Minor Traffic Violations				
No Law Violations	3,385	4.2		
Violations-No Waiver	849	4.6	1.11	1.10
Waiver	43	2.3	0.55	0.52
Serious Traffic Violations				
No Law Violations	3,390	4.2		
Violations-No Waiver	189	7.9	1.99*	2.14*
Waiver	28	10.7	2.77	2.68
Minor Non-Traffic Violations				
No Law Violations	3,386	4.1		
Violations-No Waiver	373	6.7	1.67*	1.53
Waiver	20	15.0	4.09*	3.55
Serious Non-Traffic Violations				
No Law Violations	3,368	4.2		
Violations-No Waiver	201	7.0	1.73	1.79
Waiver	173	7.5	1.87*	1.79
Juvenile Felony Violations				
No Law Violations	3,387	4.2		
Violations-No Waiver	29	3.4	0.82	0.89
Waiver	52	3.8	0.92	0.88
Adult Felony Violations				
No Law Violations	3,389	4.1		
Violations-No Waiver	11	0.0	-	-
Waiver	30	13.3	3.57*	3.83*
Marijuana Use				
No Drug/Alcohol Use	3,035	3.3		
Marijuana Use-No Waiver	562	6.6	2.05**	1.93**
Waiver	1,112	6.2	1.92**	1.85**

[18] The asterisks indicate in-service deviance rates that are significantly different from those with no pre-service transgressions. * indicates significance at the 5% level (two-tailed); ** indicates significance at the 1% level (two-tailed).
e^B Raw – Odds ratios without demographic controls in logistic regressions.
e^B Control – Odds ratios controlling for demographic variables in logistic regressions.

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III. DATA AND MODEL SPECIFICATION

A. DATA

This section will describe the data sets used in this study as well as the source, scope, and sample restrictions. A description of the variable definitions for both dependent and independent variables of interest follows. Finally, this section will present descriptive statistics for accessions, waivers, and separations contained in the data.

1. Source and Scope

The data analyzed in this study was obtained from the Marine Corps Total Force Data Warehouse (TFDW). TFDW is the Marine Corps' official system for historical reporting. TFDW's primary function is to house data captured in periodic snapshots in time. Quarterly snapshots are available from September 1997 and monthly snapshots are available starting in October 1997. TFDW data is captured at the end of the month and is used for historical analysis, trend analysis, and reporting official strength numbers based on a uniform point in time.

This study merged three separate data sets pulled from TFDW using information from FY 1997 to FY 2005. A unique identification number was assigned to each individual in each of the three data sets. Based on this unique identifier the data were merged together. The following discussion provides an overview of the three data sets as well as the merged data.

The first data set analyzes active duty applicants who arrived at one of the two Marine Corps recruit depots from October 1, 1997 to September 30, 2006 (shippers data). This data set originally contained 222,426 individual observations. However, 589 contained duplicate identification numbers, leaving only 221,837 valid observations.

The second data set includes active duty and non-retirement separations (EAS and Non-EAS) during the same time frame (loss data). This data set originally contained 183,809 observations. However, 31,711 observations were dropped due to duplicate

entries for the same identification number. There was no accurate way of determining the true reason for separation for these individuals, given the multiple and often contradictory separation entries, so these observations were dropped.

The third and last data set includes waiver information that contains the waivers granted to applicants who shipped to boot camp between the beginning of FY 1997 to the end of FY 2005. This data set originally included 354,578 entries with each entry representing a single waiver that was approved for one individual. Because one individual could have multiple entries if they received more than one waiver, this data set was collapsed to provide a total number of waivers that each person received. After collapsing this information there were 216,271 unique observations of individuals containing single or multiple waivers.

The final merged data set contained 468,780 non-duplicate observations. This data represented the vast majority of all active duty accessions and non-retirement separations from the Marine Corps from FY 1997 to FY 2005.

2. Sample Restrictions

After the three data sets were combined into one comprehensive database, unusable observations and invalid entries were addressed. The first restriction imposed on the data was to reduce the sample to only those who accessed between FY 1997 to FY 2005. Therefore, individuals who separated during this period of time (and were captured in the loss dataset) but had began active duty before FY 1997 were dropped from the analysis.

Next, the study restricted attention to four-year contracts because they represent the vast majority of contracts signed by applicants. Contracts longer than four years are generally given to higher quality applicants entering technical fields with longer and more difficult training tracks. By including individuals who are systematically less likely to require a waiver in the sample, the true effects of waivers on attrition could be accentuated.

Other observations were dropped because the listed age at contract was in violation of the Marine Corps recruiting policy, thus representing a potential data error and making that observation unreliable. Additionally, those who were separated from the Marine Corps due to death on active duty were removed. Without the specific nature of their demise it would be impractical to attempt to correlate pre-service conduct to cause of death. Table 6 provides a comprehensive breakdown of those observations that were removed from the final data set.

Table 6. Observations that Were Not Used and Why

Number Affected	Variable	Action
246,943	No Ship Data (recruits enlisting before FY 1997)	Dropped
44,532	Not 4 year Contract	Dropped
81	Separations caused by Death	Dropped
16	Enlistment age under 17	Dropped

Additionally, there were several cases when individual variables obtained potentially incorrect information. These instances of erroneous information in an individual variable were all corrected by changing the erroneous entry to a missing value. By doing this, a particular variable would be omitted from the regressions as well as any tabulations but still allow other pertinent variables within that observation to be evaluated. Values of time in DEP exceeding 365 days were changed to missing because policy states that the longest an individual is allowed to stay in DEP is one year.[19] Additionally, those with negative days in DEP and individuals with negative time in

[19] The Commanding General of MCRC can authorize an applicant up to 545 days in DEP. However this does not occur as often as it appeared in the data. This caused sufficient doubt on the validity of many of these entries. Starting in FY 2007 a policy change allowed applicants to stay in DEP up to 730 days. However, that policy does not affect this data, since the latest observed period is FY 2005.

service had these entries changed to missing.[20] Finally, individuals with ASVAB test scores that were below DoD limits for entry into any branch of the Armed Forces were changed to missing. Table 7 provides the complete list of the individual observations that were changed to missing values because they could not be verified or corrected.

Table 7. Occurrences and Reasons Erroneous Entries were not Used

Number of Observations Affected	Reason Variable changed to Missing
2,896	Days in DEP greater than 365
681	AFQT below 25
268	Days in DEP negative
83	Time in service negative
48	ASVAB scores zero

Finally, it should be noted that the final data set does not contain a full population of all active duty four-year accessions for the first three years of data. Fiscal years 1997 to 1999 contain a random sample of the entire accession population in those years. In 2002 the Marine Corps changed recruiting database systems form Automated Recruit Management System (ARMS) to the current system MCRISS. However, data migration issues caused incomplete data to be extracted in the first three years of data included in this study. After extensive investigation of the background characteristics of the accessions included for these incomplete years, the conclusion is that the included observations represent a random sample of the actual population and are therefore are valid for analysis and statistical comparison. Table 8 summarizes the number of accessions for each entry cohort in the dataset and a comparison of key background characteristics.

[20] Time is service is computed as the difference between the End of Service (EOS) date and the Armed Forces Active Duty Base Date (AFADBD).

Table 8. Demographic Characteristics and Moral Waivers by Cohort[21]

	1997*	1998*	1999*	2000	2001	2002	2003	2004	2005	Total
Accessions	7,828	7,151	12,711	25,002	26,226	26,900	23,844	23,850	23,696	177,208
Mean Age	18.79	18.76	18.41	18.71	18.83	18.80	18.71	18.88	19.02	18.79
Female	7.88	7.30	6.88	7.28	6.86	6.77	7.05	7.24	7.31	7.11
White[22]	72.02	72.49	73.00	75.09	79.23	73.51	59.88	63.01	68.84	70.56
% Moral Waiver	38.25	37.38	28.97	30.87	38.61	44.09	44.75	46.26	47.29	40.61
% Low education	4.19	4.49	3.49	4.50	3.28	2.35	1.96	3.87	3.57	3.36
Mean AFQT	56.52	55.97	56.08	55.80	56.83	58.05	58.31	57.54	57.92	57.21

* FY 1997, 1998, and 1999 represent samples of accessions not the entire population.

B. VARIABLE SPECIFICATION

1. Dependent Variables

To capture the multiple aspects and effects of attrition on Marine Corps manning, efficiency, and effectiveness, several dependent variables were examined. The first measure examined is the relationship between End of Active Service (EAS) separation and Non-End of Active Service attrition. Typically, attrition studies focus on non-EAS attrition. EAS attrition is only considered when the focus of the analysis is reenlistment behavior. However, within the EAS population there are individuals who did complete their first term of service but were not allowed to enlist, for one reason or another. Since

[21] Observed Demographic characteristics percents and averages in this table are draw from the data already described and are comparable to statistics found in the Office of the Secretary of Defense for Military Personnel Policy tables of Population Representation in the Military service found at: http://www.defenselink.mil/prhome/mpp.html.

[22] In this study, whites include both Hispanic and non-Hispanic ethnic groups. The Ethnic variable that separates Hispanics from non-Hispanics was not captured.

these reasons may include in-service infractions, I chose to include these individuals in my definition of the dependent variable. Therefore, both those who underwent attrition before the end of the first term and those whose service was not satisfactory enough to be granted a suitable re-enlistment code were added together to produce the dependent variable of interest indicating unsatisfactory service.

To identify reasons for separation I used separations codes found in the loss data set. This code is given to every Marine at their time of separation and provides the specific reason and classification for that individual's separation. These codes and their definitions are found in the Marine Corps separations manual. The manual contains over 350 individual codes, with each falling under one of two separation types: EAS or non-EAS. Table 9 provides a breakdown of which categories were considered EAS and non-EAS for this study.

Table 9. Description of the Dependent Variable

Type	Category	Description
EAS	Officer	Enlisted Marine accepted Marine Commission
	Reserve	Approved transfer to Marine Corps Reserve
	Contract Completion	Fulfilled contract obligation, approved early out
Non-EAS	Misconduct	Drug, Sexual Offenses, Pattern of Misconduct, Unauthorized Absences, Civilian Offenses
	Recruit	Entry Level Performance and Conduct (ELPAC), Erroneous, or Fraudulent Entry
	Unsatisfactory Performance	Weight Control, Unsuitability for Service, Unsatisfactory Performance, Convenience of Secretary
	Courts Martial	Separation ordered by courts martial

To identify those who completed the first term but were not allowed to reenlist, I investigated re-enlistment codes that did not give the recruit or the Marine Corps an option to continue service. Many of these individuals were also captured in the Non-EAS variable. However, 10.55% of those in the restricted variable were EAS separations. Table 10 lists the re-enlistment codes that were considered restricted for this study and the reason why they were assigned. While some codes such as 3O, 3N or 3H may represent Marines who performed well but a single event lead to their becoming unqualified for retention these cases still represent a forced loss of investment, leadership, and generate unforeseen manning obstacles.

Table 10. Re-Enlistment Codes considered as part of the Restricted Variable

Re-Enlistment Code	Reason
3A	Pro/Con Score, not eligible to re-enlist
3B	Drug, not eligible to re-enlist
3C	Other, not eligible to re-enlist
3E	Education, not eligible to re-enlist
3F	Recruit Drop, not eligible to re-enlist
3H	Hardship Discharge, not eligible to re-enlist
3N	Pregnancy, not eligible to re-enlist
3O	Refused Orders, not eligible to re-enlist
3P	Physical, not eligible to re-enlist
4B	Drugs, not eligible to re-enlist

Because 52% of those who separated under Non-EAS conditions did not receive re-enlistment codes at all it became necessary to create a third variable that captures the Non-EAS and unsatisfactory re-enlistment code cases. The unsatisfactory service variable does this by adding individuals with unsatisfactory re-enlistment codes to the Non-EAS base. This variable was created to capture the broader definition of unsatisfactory service. Table 11 provides a summary of the dependent variables used in this study.

Table 11. Description of the Dependent Variables

Variable	Definition
Non-EAS	Failed to complete contract under satisfactory conditions
Restricted	Received a restrictive re-enlistments code at separation
Unsatisfactory Service	Combines non-EAS separations with those who received restrictive re-enlistment codes

2. Independent Variables

Demographic variables such as age, race, gender, citizenship, and geographic enlistment region are used to control for individual background differences that may contribute to both the probability of having engaged in behavior requiring a moral waiver and potential separation. Prior studies have found that attrition rates vary systematically by demographic characteristics. In addition, I also include an indicator for citizenship status. The military follows a policy of fast-tracking the naturalization paperwork for non-citizen service members. Many wonder if this policy attracts people who are more interested in becoming citizens than being Marines. The geographic variables included aim to control for regional differences in the youth population, local labor market conditions, as well as local recruiting practices. In particular, these variables control for differences between the two recruiting regions, the six recruiting districts, as well as the difference between the 48 recruiting stations.

Similar to previous studies, I control for the educational background and ability of recruits. I create a dummy to indicate that the recruit did not receive a traditional high school diploma. I also include AFQT scores, both as a continuous variable (in some models) and as mental group categories (in other models). The attrition characteristics of non-high school diploma graduates and lower aptitude individuals have been documented in a number of prior studies. Consequently, DoD limits the number of lower educational tier applicants each service can access each year.

A key variable of interest in this study is enlistment waivers. This variable is broken down into several binary (dummy) variables indicating the type of waiver the applicant received. I also create a variable indicating the total number of waivers an applicant receives upon enlistment. First, the simplest breakdown of waivers is to separate the sample into applicants who had at least one waiver and those who needed no waivers to enlist. Then, the group of recruits with waivers was further separated into further waiver categories, including medical, administrative, moral, and occupational waivers. Moral waivers are those that involve legal issues or substance abuse. Finally, the moral waiver group was divided into three major categories: (1) substance waivers,

including those who received a waiver for drug or alcohol use; (2) traffic waivers, including major and minor traffic offenses; and (3) legal issues, which include minor offenses, adult and juvenile felonies and other serious law violations.[23] Table 12 summarizes the key independent variables used in this study.

Table 12. Description of Independent Variables

Variable	Description
Demographic Variables	
Age	-Applicants age at time of contract
Race	
White*	-Responses represent Hispanic and white population groups
Black	-Responded as African American population
Race Other	-Race was none, Asian, Islander, or Native
No Response	-Declined to answer Race question
Asian	-Responded as Asian population group
Pacific Islander	-Responded as Pacific Islander of Native Alaskan
Native American	-Responded as a American Indian
Gender	
Male*	-Represents male applicants
Female	-Categorical and dummy variable representing female applicants
Citizenship	-Dummy indicating if the applicant was not a United States citizen at time of entree (Birth or Naturalized).
Location	-Categorical and dummy variable representing one of two Marine

[23] See appendix A for a complete list of offenses that fall into each category.

Region	Corps recruiting regions (East and West) the applicant enlisted from.
District	-Categorical variable representing which one of the six Marine Corps recruiting districts the applicant enlisted from.
Recruiting Station	-Dummy and categorical variable representing each one of the 48 recruiting stations where the applicant enlisted (RS Cleveland is used as the base category in regressions)
Education and Ability	
Education Level	-Dummy created for all education levels below high school graduate. These include GED-recipients, those who receive alternative credentials, such as a certificate of attendance, vocational programs, and home- schooled recruits.
AFQT Score[24]	-Continuous variable representing the AFQT score -Categorical variable reflecting the recruit's mental group code • I – Score 93-100* • II– Score 65-92 • IIIa – Score 50-64 • IIIb – Score 31-49 • IV– Score 21-30
Waiver Variables	
No Waiver*	- Dummy indicating accession without a waiver
Any Waiver	- Dummy indicating an enlistment waiver (medical, moral, or administrative). -Variable representing the total number of all waivers applicant received.

[24] In 2004, the Department of Defense re-normed the ASVAB, using the 1997 Profile of American Youth. The change (new scoring) is effective for any ASVAB test given after July 1, 2004. However, the Marine Corps did not change minimum scores.

Any Moral Waiver	-Dummy if applicant received any moral enlistment waiver. -Variable representing the total number of all moral waivers applicant received.
Substance Waiver	-Dummy Variable indicating the applicant received a marijuana, alcohol, or other drug waiver.
Minor Waiver	- Dummy Variable indicating the applicant received a serious traffic, minor traffic, or other minor offense waiver.
Serious Waiver	-Dummy Variable indicating the applicant received a felony, serious law, or juvenile felony waiver.
Time Variables	
Year Cohorts	-Applicants grouped by Fiscal Year according to the year that the individual shipped to recruit training (ranging from FY 1997 to 2005).*
Time in DEP	
DEP under 30 days	-Dummy variable indicating the applicant spent 0 to 29 days in DEP before shipping to recruit training.
DEP 30 to 90 days	-Dummy variable indicating the applicant spent 30 to 90 days in DEP before shipping to recruit training.
Long DEP time*	-Dummy variable indicating the applicant spent 91 or more days in DEP before shipping to recruit training.
*	Indicates the base category in regression models

C. DESCRIPTIVE STATISTICS

1. Accessions

The demographic characteristics of the Marine Corps accessions changed very little in the nine years of accession data included in this study. All observed characteristics in the sample vary little over time. Even after the attacks of September 11, 2001, the demographics of Marine recruits did not change significantly. This seems to be consistent with the observation that during the period of time examined in this study the Marine Corps never missed recruiting goals. This relatively steady supply of qualified applicants implies that Marine recruiters did not need to reduce accession standards to meet increased recruiting goals. However, as pointed out by prior studies (CNA, 2005), there have been seasonal fluctuations in the demographics of accessions. As the supply of DEP seniors dwindles throughout the summer months, recruiters may meet quotas with slightly older and less-qualified individuals who may have been unsuccessful in their civilian job market pursuits after graduation. The seasonal demographic changes in recruitment were echoed in the seasonal fluctuations in training attrition for those who shipped in the months of October through May.

While the percentage of whites enlisting has decreased slightly over the years, the percent of applicants who refuse to declare a race has increased from 2.7% in 1997 to 6.7% in 2005. Additionally, applicants reporting to be African-American have decreased from 15% in 1997 to 7% in 2005. Another trend in the accessions race mixture is the increase in non-U.S. citizens, a number that has increased from 2.7% in 1997 to 6.7% in 2005. There has been no notable change in qualifying characteristics (i.e.; age, test scores, or educational tier) to indicating that the Marine Corps is recruiting from a larger pool than in previous years and is using this pool to keep recruit quality high in the face of a prolonged war and a strong civilian economy. Table 13 displays the percent of accessions represented by these categories for the beginning, end, and midpoint of the time period analyzed in this study.

Table 13. Percent of Accessions by Race and Citizenship Over Time

	1997	*2000*	*2005*	*Total*
White	72.02 %	75.09 %	68.84 %	70.56 %
African American	15.45%	12.93 %	6.89 %	9.88 %
No-Race	10.48 %	8.51 %	21.50 %	16.70 %
Non-Citizen	2.71 %	7.14 %	6.71 %	6.84 %

Another key accession characteristic is the time applicants spend in DEP. Applicants who spend a longer time in DEP naturally have a higher rate of DEP attrition. However, those who survive long DEP stays also stand a better chance of not separating prior to their EAS. The correlation between spending fewer than 30 days in DEP and non-EAS separation is 0.027. This correlation drops to 0.004 for those who spend from 30 to 90 days in DEP. Finally, for those who stay in DEP over 90 days, this correlation drops to -0.025. It appears that a longer DEP duration results in a self-selection of recruits who are more dedicated and determined to stay in service. However, some potentially good recruits may also attrite the longer they spend in DEP. The mean days in DEP appears to have decreased from 146 days in 1997 to 121 days in 2005 and the percent of accessions spending 30 to 90 days in DEP has increased from 19% to 26.1% in that same period of time. On average 59.1% of all applicants spend over 90 days in DEP and only 19% spend less than 30 days. Table 14 displays the time in DEP trend in terms of mean days for selected cohorts. The table also displays the percentage of the pool that spent 0 to 29, 30 to 90, or over 90 days in the DEP before shipping to recruit training from 1997 to 2005.

Table 14. Percent and Mean Time in Delayed Entry Program for Select Cohorts

	1997	*2000*	*2005*	*Total*
Mean Days	145.8	148.0	120.5	149.4
0-29 Days	25.8%	21.4%	26.8%	19.0%
30- 90 Days	19.0%	21.9%	26.1%	21.9%
Over 90	55.2%	56.7%	47.1%	59.1%

2. Waivers

Applicants that require some form of policy waiver to enter the Marine Corps represent a significant portion of all accessions. Over half of all applicants require a waiver of some sort to enlist. The waiver incidence varies by gender, as 41 percent of males and only 30 percent of females require a moral waiver. The most requested waiver for both sexes is a substance waiver with over 35 percent of males requiring one. The rate of substance waivers for females is nine percentage points lower than males while only five percent require a traffic or minor infraction waiver.

While there are clear gender differences in waiver rates, there does not appear to be a disparity between race codes. Whites and Hispanics require waivers (moral or other) at approximately the same rate as other races. Table 15 shows the waiver rates for the key waiver categories and a percentage of all accessions in the data by gender and race.

Table 15. Percent Waivers for all Accessions

	Any Waiver	*Moral Waiver*	*Substance*	*Minor*	*Serious*
Male	51.54 %	41.41 %	35.52 %	5.26 %	9.86 %
Female	55.73 %	30.11 %	26.11 %	2.46 %	4.03 %
White	51.73%	41.31%	35.39%	5.30%	9.72%
Other	52.11%	38.96%	33.58%	4.51%	8.80%
Total	51.84 %	40.61 %	34.85 %	5.06 %	9.44 %

Next I investigate the AFQT scores by waiver category. In Table 16 the percent of waivers required appears to increase as the AFQT scores decrease. There is a 20 percent point difference between the waivers required for Category I and Category IV applicants. The exception to this trend is seen in the moral waiver groups for category IV applicants. It is important to emphasize here that this data represents approved waivers. Applicants who posses other attrition risk factors are far less likely to be approved for a moral waiver than applicants with better AFQT scores. Subsequently, a much smaller percentage of category IV applicants receive moral waivers than any other group, regardless of other demographic characteristics.

Table 16. Number and Category of Waivers Granted by Mental Group Code

	Total Accessions	**Any Waiver**	**Any Moral**	**Substance**	**Minor**	**Serious**
Cat I	5,595	47.10%	36.41%	29.62%	5.99%	10.33%
Cat II	54,189	49.77%	40.50%	34.16%	5.59%	10.62%
Cat IIIa	49,661	52.46%	41.34%	35.51%	5.14%	9.66%
Cat IIIb	66,127	53.11%	40.66%	35.49%	4.51%	8.36%
Cat IV	1,628	67.20%	35.20%	34.85%	4.30%	5.22%

Because of geography and time, the number of waivers the Marine corps has granted has remained relatively stable. Each MCD covers several states and in many cases parts of states, so a change in one state's juvenile laws or reporting practices can have a dramatic effect on the number of waivers a particular MCD is required to consider in relation to other districts. Additionally, while the Marine Corps policy has remained constant over this time period, each change of command at the recruiting station or district introduces a new interpretation of the "Whole Person" concept of waiver approval. Given these factors all six recruiting districts have maintained a moral waiver rate between 30 to 40 percent across the nine years of this study. Figure 1 provides a look at the total number of accessions and moral waivers rates for each MCD at the beginning, middle and end of this study as well as the over all totals.

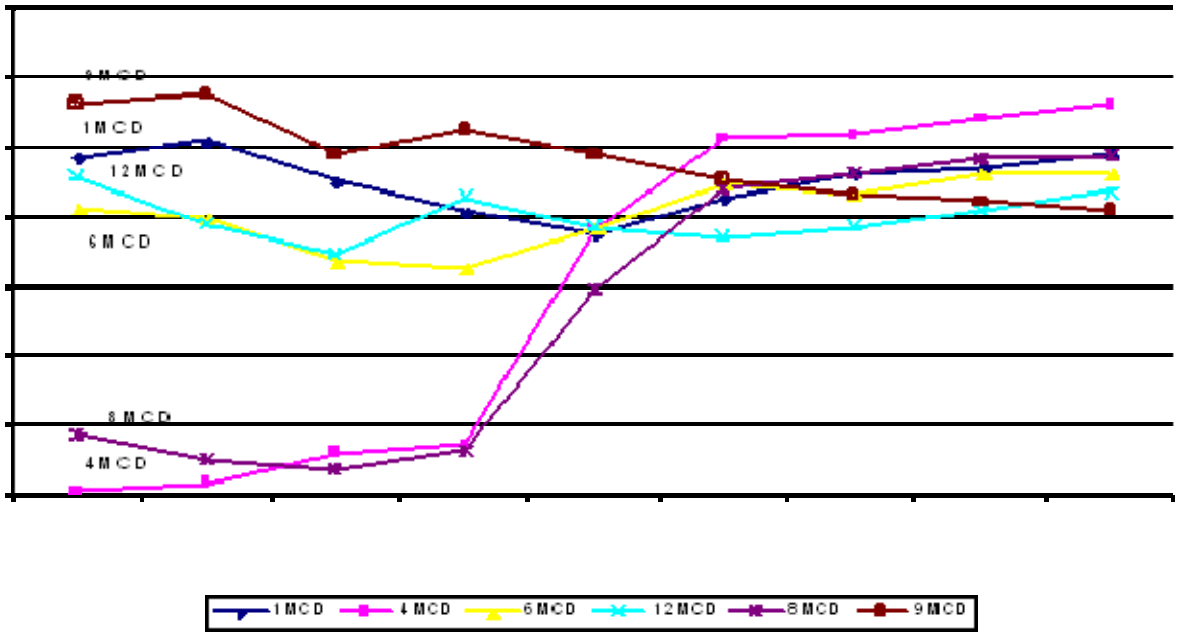

Figure 1. Percent of Accessions with Moral Waivers by Marine Corps Recruiting District over Time

FY 1997 to FY 1999 represent a small sample of the accessions for those years, therefore increasing the probability that the disproportional decrease in waivers granted in these years is driven by an unclear accessions sample. This period represents a growth in the technology used to better identify and track juvenile offenders. In 1995 New York State instituted the use of digital fingerprinting on its juvenile offenders (National Institute of Justice, 1995). As more juvenile offenders are identified by this system these future military applicants must now request waivers that would not have been necessary if juvenile records were accurate. However, this trend is not being used nation-wide and would not be isolated to just two districts. No other state or Marine Corps policy changes have been identified that account for the disparity.

3. Separations

The small relative sample size of those with accurate data who underwent attrition and received waivers and the total population of those who successfully completed a contract and separated make it difficult to reach findings that are representative of the population. While the cohort data set used in this study shows that 45.53 percent of those who separated from service did so for Non-End of Active Service (Non-EAS) reasons, the separation data files contained only 8,675 valid entries. Accuracy of separation data was also an issue; five percent of the separations data contained duplicate entries for members and inconsistent separation codes. With no way to validate which code was correct these entries were dropped, removing over 9,000 separations from the dataset. While these data shortcomings make the results non-representative of the population, they still generate implications for the behavior of individuals with moral waivers as compared to those without moral waivers.

The distribution between EAS separations and non-EAS separations remains constant across gender and race demographics. Males and females separate at nearly the same rate across the entire sample. As seen in Table 4 females only represent just over 7 percent of the entire sample, meaning that even small fluctuations in categories of separations could cause a significant change in separation percentage. While minorities separate under non-EAS conditions at a slightly higher rate than the rest, they represent

29.44 percent of the sample, and so do not represent high absolute numbers of separations. Table 17 presents the breakdown of separation categories for gender and race across the entire sample.

Table 17. Rates of Separations by Gender and Race Demographics

	Male	Female	White	Non White	Total
Sep EAS	57.16%	59.48%	56.57%	52.89%	55.83%
Non EAS	42.84%	40.52%	43.43%	47.11%	44.17%

Separation characteristics by mental group code reflect the findings of past research in this area. In this sample there is a nearly 20 percent point difference between the rates of non-EAS separation in category I accessions and category IV accessions. This information remains stable even after accounting for the fact that a far smaller proportion of category IV accessions with waivers were allowed to enlist. Table 18 shows that while the numbers in category I or IV were small the distribution between separations categories is consistent with previous studies.

Table 18. Rates and Classification of Separations by Mental Group

	I	II	IIIa	IIIb	IV	Total
Sep EAS	62.12%	59.12%	56.15%	52.58%	46.58%	55.83%
Non EAS	37.88%	40.88%	43.85%	47.42%	53.43%	44.17%
Total Separations	198	2,089	1,918	2,501	73	6,779

The geographic distribution of separation rates also seems to be even. The 4th district (Northeastern States) has the highest rate of non-EAS separations with almost 49 percent, and the 12th District (Northwestern States) has the lowest rate of non-EAS separation with just over 40 percent. With these two extremes between different

recruiting regions it follows that the western region has a slightly lower rate of non-EAS separations than the eastern region with less than one percentage point separating them. Table 19 gives the rates of EAS and non-EAS separations for each district as well as the rates for the two regions. Looking at the number of separations in each district it becomes obvious that, according to the data, over four times more separations are occurring from those that enlisted in 1st MCD than any other district.

Table 19. Separation Classification within Marine Corps Recruiting Districts and Regions as a Percent of Total Separations

MCD	Number of Separations	EAS	Non-EAS
1st	3,984	56.70%	43.30%
4th	690	51.02%	48.99%
6th	838	54.77%	45.23%
East Recruiting Region	5,512	55.70%	44.30%
8th	424	55.90%	44.10%
9th	461	54.23%	45.77%
12th	371	59.57%	40.43%
West Recruiting Region	1,256	56.37%	43.63%

The amount of time an applicant spends in DEP before shipping to boot camp appears to have a significant effect on the rate at which they successfully complete service. As seen in Table 20 almost 53 percent of individuals who complete less then 30 days in DEP separate under non-EAS conditions before shipping to recruit training compared to only 40 percent of individuals who complete over 90 days in DEP. This may partially be because of the tendency to ship the less qualified applicants directly while the relatively high-quality high school seniors spend more time in DEP prior to graduating.

Table 20. Rates of Separations Characteristics by the Number of Days Spent in DEP Among Those Already Separated

	EAS	Non-EAS
DEP Days 0-29	47.11%	52.89%
DEP Days 30-90	54.21%	45.79%
DEP Days 91+	59.82%	40.18%

D. PRELIMINARY ANALYSIS

1. The Effects of Delayed Entree Program Time on Separations Classification

As seen in Table 21 both male and female applicants have significantly higher moral waiver rates than their counterparts that spend over 30 days in DEP. Over 50 percent of male applicants that stay in DEP for less then 30 days require a moral waiver, which is more than a ten percentage point increase over males that spend over 30 days preparing for boot camp with a recruiter. Not only do those who don't spend time in the DEP require more waivers, they also separate under unsatisfactory conditions at a rate that is almost a full percentage point off all accessions higher than those the spend more than 30 days in DEP. A one percentage point increase may not seem to be a significant change however, it represents a percentage of all 175,000 accessions detailing an increase of 1,750 unsatisfactory separations across the entire sample. This table does not necessarily support the conclusion that increased DEP time alone decreases the effects of moral waivers on separations characteristics. In order to isolate the effects of time in DEP other demographic and individual variables will need to be accounted for.

Table 21. The Effects of DEP Time and Gender on Separations Classification Among all Accessions

	Female	Male	Total
30 or more Days in DEP			
Accessions	9,855	131,000	141,000
Any Moral Waiver	28.80%	39.52%	38.77%
Non-EAS	2.37%	1.47%	1.53%
Unsatisfactory Service	2.38%	1.56%	1.62%
0-29 days in DEP			
Accessions	2,519	30,700	33,200
Any Moral Waiver	36.32%	50.27%	49.21%
Non-EAS	3.45%	2.34%	2.42%
Unsatisfactory Service	3.57%	2.49%	2.57%
Total			
Accessions	12,400	162,000	175,000
Any Moral Waiver	30.33%	41.55%	40.76%
Non-EAS	2.59%	1.63%	1.70%
Unsatisfactory Service	2.63%	1.73%	1.80%

2. The Effect of the Number of Moral waivers on Separations Classification

The number of moral waivers an applicant has does seem to have an effect on the likelihood that they will separate with unsatisfactory service. As seen in Table 22, the increase in the rate of unsatisfactory service among those that separated with no moral waivers and those that had one moral waiver is 11.79 percentage points. Overall, it appears that as the number of moral waivers increases, so does the percentage of those that separate for unsatisfactory service.

The Effect of the Total Number of Moral Waivers an Individual has on the Separations Characteristics as a Percent of Separations and Accessions.

Number of Moral Waivers	Losses	Unsatisfactory Service as a Percent of Separations	Unsatisfactory Service as a Percent of Accessions
0	3,663	41.85	1.45
1	1,747	53.64	2.05
2	1,087	48.30	2.70
3	144	65.28	2.42
4	88	54.55	3.56
5	37	59.46	3.15
6	12	41.67	3.65
8	2	50	1.23
Total	6,780	100	1.79

3. The Effect of Aptitude on Classification of Separation

A look at waivers and unsatisfactory service rates across AFQT categories reveals that category I and II accessions require waivers at a similar rate as category III and IV accessions. Again this data only captures waivers that were approved for individuals that accessed. Consequently, based on the whole person approach to approval, a category I individual is more likely to have a waiver request approved than a category IV individual. Table 23 reinforces the legitimacy of using AFQT categories as an indicator of potential for quality of service. While the rates of moral waivers do not vary significantly between categories, the rates of unsatisfactory service increase as the AFQT category moves from one to four.

Table 22. The Effect of an Applicants AFQT Category on Waiver Rates and Separations Characteristics

AFQT	Accessions	%Minor Waiver	% Substance waiver	% Serious Waiver	% Unsatisfactory Service
I	5,595	5.99	29.62	10.33	1.41
II	54,200	5.59	34.16	10.62	1.66
IIIA	49,700	5.14	35.51	9.66	1.81
IIIB	66,100	4.51	35.49	8.36	1.89
IV	1,628	4.30	29.55	5.22	2.40
Total	177,000	5.06	34.85	9.45	1.79

4. Regional Effects on Separations Classification

While the two Marine Corps Recruiting Regions access approximately the same number of recruits and have the similar rates of waivers, the Eastern Recruiting Region has a rate of unsatisfactory service that is more than four times that of the Western recruiting region. Table 24 shows that there is a 2.26 percentage point difference between the East and Western Recruiting regions unsatisfactory service rates. This translates into 2,017 more Marines that accessed from the Eastern Region who did not fulfill their contract obligations or received unsatisfactory re-enlistment codes at EAS than from the Western region.

Table 23. The Effects of Waver Category and Recruiting Region on Separations Characteristics as a Percent of Total Accessions

	Accessions	*% Substance*	*% Minor*	*% Serious*	*% Unsatisfactory Service*
ERR	89,000	35.12	4.48	9.66	2.91
WRR	88,200	34.58	5.65	9.23	0.65
Total	177,000	34.85	5.06	9.45	1.79

Table 25 breaks down the total number of separations by district and compares the moral waiver rates of those with unsatisfactory service separations. The rate of unsatisfactory service separations remains constant across all six districts and across the three wavier categories. The first MCD has a significantly larger number of separations

in this sample but still maintains the same rate of unsatisfactory separations. In total, over 40 percent of all unsatisfactory separations have substance waivers. This is partially accounted for by the fact that substance waivers make up 34.85% of all accessions. The overall rate of unsatisfactory service separations with each of the three categories appears to mirror the rates of accession with those waivers, indicating that recruits in these waiver categories do not seem to get out at a disproportionately higher rate than they access.

Table 24. The Effects of Marine Corps Recruiting District on Moral Waiver Rates and Separations Characteristics

Unsatisfactory Service separations			
1MCD	Number of Separations	3984	100%
	Unsatisfactory Service Separations	1838	46.13%
	Unsatisfactory Service with Minor Waiver	131	6.12%
	Unsatisfactory Service with Substance Waiver	916	46.01%
	Unsatisfactory Service with Serious Waiver	229	9.34%
4MCD	Number of Separations	690	100%
	Unsatisfactory Service Separations	349	50.58%
	Unsatisfactory Service with Minor Waiver	10	2.75%
	Unsatisfactory Service with Substance Waiver	113	25.36%
	Unsatisfactory Service with Serious Waiver	35	7.25%
6MCD	Number of Separations	838	100%
	Unsatisfactory Service Separations	399	47.61%
	Unsatisfactory Service with Minor Waiver	20	5.25%
	Unsatisfactory Service with Substance Waiver	171	37.59%
	Unsatisfactory Service with Serious Waiver	46	8.47%
8MCD	Number of Separations	424	100%
	Unsatisfactory Service Separations	190	44.81%
	Unsatisfactory Service with Minor Waiver	13	4.95%
	Unsatisfactory Service with Substance Waiver	42	17.92%
	Unsatisfactory Service with Serious Waiver	21	7.08%
9MCD	Number of Separations	461	100%
	Unsatisfactory Service Separations	226	49.02%
	Unsatisfactory Service with Minor Waiver	33	11.71%
	Unsatisfactory Service with Substance Waiver	104	44.25%
	Unsatisfactory Service with Serious Waiver	23	7.16%
12MCD	Number of Separations	371	100%
	Unsatisfactory Service Separations	158	42.59%
	Unsatisfactory Service with Minor Waiver	10	6.47%
	Unsatisfactory Service with Substance Waiver	68	37.20%
	Unsatisfactory Service with Serious Waiver	21	8.63%
Total	Number of Separations	6768	100%
	Unsatisfactory Service Separations	3160	46.69%
	Unsatisfactory Service with Minor Waiver	217	6.00%
	Unsatisfactory Service with Substance Waiver	1414	40.50%
	Unsatisfactory Service with Serious Waiver	375	8.69%

Another area of interest is that substance waivers comprise the largest portion (34.85%) of the recruit population but represents the smallest portion (6.87%) of those with unsatisfactory service separations. Serious Law waivers are the second of the three categories in terms of proportions of accessions (9.45%), but represent 44.75% of those that separate under unsatisfactory conditions. Although major traffic waivers represent the smallest proportion of accessions, they account for the largest percentage (63.77%) of those who leave for unsatisfactory service. While the marginal effect of these waivers does vary by race and geographic region, the cumulative effects are constant and appear to be significant.

Before addressing the rate of unsatisfactory separations for those with moral waivers, it is important to consider how recruits with moral waivers differ from those without moral waivers in observable characteristics. If there are systematic differences in the background characteristics of these two groups, then it is harder to attribute the differences in separation rates to the moral waiver alone. Table 26 presents summary statistics for those with moral waivers and those without. It appears that 95 % of all recruits with moral waivers are male compared to 92% of male non-waiver recruits. By dividing the difference in male representation by the standard deviation in the sample, it is easier to evaluate the magnitude of this difference. In this case it appears that males are slightly more likely to have a moral waiver than females (by 3 percentage points), but this difference is about a tenth of a standard deviation, and therefore quite small. Similarly, recruits with moral waivers seem less likely to be African American, more likely to come from eastern U.S., and more likely to have accessed after FY 2002. However, all these differences are statistically quite small. Interestingly, no differences are noted in the educational background of those with moral waivers and those without waivers. About the only significant observable difference between the two groups is the time in DEP. Individuals with moral waivers are far less likely to spend a prolonged period in DEP (more than 90 days). Overall, Table 26 shows that the differences in the background characteristics between the moral waiver and non-moral waiver groups not substantial.

Table 25. Differences in Observed Characteristics Between Recruits with Moral Waivers and Recruits without Waivers[25]

		No Waiver	*Moral Waiver*	*Standard Deviation*	*Standardized Difference*
Gender	Male	0.92	0.95	0.26	0.12
	Female	0.08	0.05	0.26	-0.12
Race	White & Hispanic	0.70	0.72	0.46	0.04
	Black	0.11	0.09	0.30	-0.08
	Other	0.19	0.20	0.40	0.01
Education	Lower Education Tier (2 or 3)	0.03	0.04	0.18	0.05
DEP	Less Than 30 DEP	0.16	0.23	0.39	0.17
	30 to 90 days DEP	0.20	0.25	0.41	0.12
	More the 90 Days	0.64	0.52	0.49	-0.23
AFQT	AFQT Cat 1	0.03	0.03	0.17	-0.03
	AFQT Cat 2	0.31	0.30	0.46	0.00
	AFQT Cat 3a	0.28	0.29	0.45	0.02
	AFQT Cat 3b	0.37	0.37	0.48	0.00
	AFQT Cat 4	0.01	0.01	0.10	-0.02
Region	ERR	0.49	0.51	0.50	0.03
	WRR	0.50	0.49	0.50	-0.02
District	MCD 1	0.16	0.19	0.38	0.08
	MCD 4	0.16	0.14	0.36	-0.06
	MCD 6	0.18	0.18	0.38	0.01
	MCD 8	0.18	0.14	0.37	-0.13
	MCD 9	0.14	0.18	0.37	0.11
	MCD 12	0.18	0.18	0.38	-0.01
Year	FY 1997	0.05	0.04	0.21	-0.02
	FY 1998	0.04	0.04	0.20	-0.03
	FY 1999	0.09	0.05	0.26	-0.13
	FY 2000	0.16	0.11	0.35	-0.16
	FY 2001	0.15	0.14	0.36	-0.03
	FY 2002	0.14	0.16	0.36	0.06
	FY 2003	0.13	0.15	0.34	0.07
	FY 2004	0.12	0.15	0.34	0.09
	FY 2005	0.12	0.16	0.34	0.11
Separations	EAS Separations	0.02	0.03	0.14	0.07
	Un-Sat Separations	0.01	0.03	0.13	0.13

[25] The standardized difference is computed as follows: (% Moral - % No Waiver)/ Standard Deviation. An absolute value difference greater then 0.25 indicates a significant difference in that particular variable between those with a moral waiver and those with no waivers.

This observation implies that in a multivariate analysis any significant findings of the effects of these variables on separations are more likely to be causal in nature. This implication hinges upon the hypothesis that those with moral waivers and those without moral waivers are similar in non-observable characteristics as well. This assumption is necessary for attributing the differences in unsatisfactory separation rates to moral waivers. However, Table 26 presents an extensive number of controls, and moral waiver recruits appear similar in almost all these dimensions to those without moral waivers. Therefore, the assumption that these two groups do not differ in unobserved characteristics becomes more plausible. At the very least, the analysis will control for all variables that the literature has historically shown to affect separations.

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IV. MULTIVARIATE ANALYSIS

A. REGRESSION MODELS PREDICTING UNSATISFACTORY SERVICE SEPARATION IN THE MARINE CORPS

1. Model Development

A probit regression model was used to determine the effect of the independent variables on the likelihood of unsatisfactory service separation.[26] Variables for gender, race, education, aptitude, and geographic location included in all models to control for any observable characteristics that may influence unsatisfactory separation in addition to enlistment waiver status. All variables, except age and number of dependants were binary variables. To control for unobserved regional effects, dummy variables for each of the six Marine Corps Districts were used. Dummy variables for time in DEP categories were also included based on prior research indicating that an increased time in DEP would have a positive impact on quality of service.

All models include fiscal year dummies to account for any unobserved cohort-level differences over time. These cohort effects are also included to control for the different length of time that each cohort is observed. Since earlier cohorts have spent more time in the service, they are at increased risk of separation, and perhaps unsatisfactory separation, since they have more time to offend. Finally, cohort dummies also try to control for the fact that the first three years of data only include samples and not the entire population of recruits. To better deal with this problem, a separate restricted model was estimated that did not use the observations from FY 1997-1999, the years with incomplete accession data. This restricted model was estimated and presented side by side with the unrestricted model that uses all observations from 1997 to 2005.

[26] The probit model is defined as: $\mathbf{Pr(y=1|x) = \Phi(xb),}$ where **y** represents a binary dependent variable, **Φ** is the cumulative standard normal probability distribution, and **xb** represents the product of the parameters (**b**) with the vector of observed characteristics (**x**).

To avoid a possible spurious correlation between the circumstances regarding an individual requiring a non-moral waiver and those requiring a moral waiver, all models excluded individuals who required a non-moral waiver. It is unclear how the two categories of waivers (moral and non-moral) interact with each other. If separation is observed, it is also hard to attribute it to the moral versus the non-moral waiver. Therefore this study only looked at individuals with moral waivers as compared to individuals without any waivers.

The study also used two different moral waiver models. First, the study looks at differences between those with a moral waiver compared to those without any waivers. Next, the moral waiver group was broken down into three major categories to determine if separations varied by type of waiver. The three major categories include: substance abuse, serious waivers, and minor waivers. All these categories were compared to individuals without any waivers.

2. Results

Table 27 below displays the results of the four models described above. For each independent variable, Table 27 presents the regression coefficient, the standard error in parentheses, and the partial effect in brackets. Asterisks indicate the level of statistical significance, with more asterisks indicating better significance. In these models the base case is an 18-year old white male with no dependants, no enlistment bonus, educational Tier I, AFQT Category I, who spend over 90 days in DEP, accessed in FY 2005 from the first MCD, and had no waivers. All marginal effects are calculated with respect to this representative individual.

Table 26. Regression Results for Marine Corps Unsatisfactory Service Separations

Dependent variable: Unsatisfactory Service Separations				
	Aggregated Waiver Categories		Any Moral Waiver	
	Unrestricted Sample (FY97 – FY05)	Restricted Sample (FY00 – FY05)	Unrestricted Sample (FY00 – FY05)	Restricted Sample (FY00 – FY05)
Any Moral Waiver	—	—	0.191 (0.019)*** [0.00562]	0.134 (0.022)*** [0.00353]
Substance Waivers	0.169 (0.019)*** [0.00504]	0.122 (0.022)*** [0.00326]	—	—
Minor Waiver	0.010 (0.040) [0.000]	-0.073 (0.053) [-0.002]	—	—
Serious Waiver	0.099 (0.030)*** [0.00303]	0.079 (0.034)** [0.00216]	—	—
Female	0.219 (0.035)*** [0.008]	0.229 (0.041)*** [0.007]	0.221 (0.035)*** [0.008]	0.230 (0.041)*** [0.008]
Black	-0.090 (0.031)*** [-0.002]	-0.014 (0.036) [-0.000]	-0.089 (0.031)*** [-0.002]	-0.013 (0.036) [-0.000]
Other Race	-0.177 [-0.004] (0.028)***	-0.127 [-0.003] (0.030)***	-0.177 [-0.004] (0.028)***	-0.127 [-0.003] (0.030)***
Number of Dependents	-0.016 (0.045) [-0.000]	0.021 (0.063) [0.001]	-0.015 (0.045) [-0.000]	0.022 (0.063) [0.001]
Age	0.016 (0.005)*** [0.000]	0.013 (0.006)** [0.000]	0.015 (0.005)*** [0.000]	0.012 (0.006)** [0.000]
Education Tier 2 or 3	0.199 (0.044)*** [0.007]	0.108 (0.058)* [0.003]	0.196 (0.044)*** [0.007]	0.105 (0.058)* [0.003]
Enlistment bonus	-0.092 (0.052)* [-0.002]	-0.087 (0.053) [-0.002]	-0.095 (0.052)* [-0.002]	-0.088 (0.053)* [-0.002]
AFQT Class 2	0.051 (0.056) [0.001]	0.073 (0.064) [0.002]	0.050 (0.056) [0.001]	0.073 (0.064) [0.002]
AFQT Class 3a	0.076 (0.056) [0.002]	0.084 (0.065) [0.002]	0.076 (0.056) [0.002]	0.083 (0.065) [0.002]
AFQT Class 3b	0.122 (0.056)** [0.004]	0.126 (0.065)** [0.003]	0.121 (0.056)** [0.003]	0.125 (0.064)* [0.003]

AFQT Class 4	0.187	0.138	0.184	0.136
	(0.118)	(0.159)	(0.118)	(0.159)
	[0.006]	[0.004]	[0.006]	[0.004]
0-29 days in DEP	0.133	0.138	0.134	0.139
	(0.025)***	(0.030)***	(0.025)***	(0.030)***
	[0.004]	[0.004]	[0.004]	[0.004]
30 to 90 days in DEP	0.051	0.051	0.051	0.051
	(0.024)**	(0.028)*	(0.024)**	(0.028)*
	[0.001]	[0.001]	[0.001]	[0.001]
4th MCD	-0.644	-0.577	-0.638	-0.574
	(0.028)***	(0.032)***	(0.028)***	(0.032)***
	[-0.011]	[-0.010]	[-0.011]	[-0.010]
9th MCD	-0.859	-0.775	-0.861	-0.780
	(0.033)***	(0.037)***	(0.033)***	(0.037)***
	[-0.014]	[-0.012]	[-0.014]	[-0.012]
8th MCD	-0.896	-0.821	-0.892	-0.820
	(0.033)***	(0.036)***	(0.033)***	(0.036)***
	[-0.014]	[-0.013]	[-0.014]	[-0.013]
6th MCD	-0.680	-0.626	-0.680	-0.627
	(0.027)***	(0.032)***	(0.027)***	(0.032)***
	[-0.012]	[-0.010]	[-0.012]	[-0.010]
12th MCD	-0.949	-0.887	-0.949	-0.887
	(0.034)***	(0.037)***	(0.034)***	(0.037)***
	[-0.016]	[-0.014]	[-0.016]	[-0.014]
FY 1997 Cohort	0.419	—	0.414	—
	(0.044)***		(0.044)***	
	[0.018]		[0.018]	
FY 1998 Cohort	0.405	—	0.397	—
	(0.045)***		(0.045)***	
	[0.017]		[0.017]	
FY 1999 Cohort	0.372	—	0.365	—
	(0.041)***		(0.041)***	
	[0.015]		[0.015]	
FY 2000 Cohort	0.257	0.244	0.251	0.238
	(0.038)***	(0.038)***	(0.038)***	(0.038)***
	[0.009]	[0.007]	[0.009]	[0.007]
FY 2001 Cohort	0.242	0.235	0.237	0.231
	(0.039)***	(0.039)***	(0.039)***	(0.039)***
	[0.008]	[0.007]	[0.008]	[0.007]
FY 2002 Cohort	0.198	0.191	0.194	0.187
	(0.040)***	(0.039)***	(0.040)***	(0.039)***
	[0.007]	[0.006]	[0.006]	[0.006]
FY 2003 Cohort	0.093	0.086	0.090	0.082
	(0.043)**	(0.043)**	(0.043)**	(0.043)*
	[0.003]	[0.002]	[0.003]	[0.001]
FY 2004 Cohort	0.041	0.036	0.039	0.035
	(0.044)	(0.043)	(0.043)	(0.043)
	[0.001]	[0.001]	[0.001]	[0.001]
Observations	136,907	113,302	136,907	113,302

Notes: All regressions were estimated via Probit. Standard errors appear in parentheses, whereas marginal effects are in square brackets. Recruits with non-moral waivers are excluded from all estimations.
* significant at 10% ** significant at 5% *** significant at 1%

3. Interpretation

According to the model in Table 27, the probability of unsatisfactory service separation increases by 32.88[27] percent or .00562 if an applicant requires a moral waiver. This increase is larger than what was seen in an identical applicant who does not require a moral waiver in the unrestricted sample. A similar effect is seen in the restricted model however; this effect is slightly lower at 25.66% or .00353. Both the restricted and unrestricted models are significant at the one percent level. This level of significance indicates that there is a 99% assurance that differences in unsatisfactory separation rates between those with moral waivers and those without are not a result of chance.

If the 32.88% increase in probability of unsatisfactory service separation were applied to a hypothetical recruit, the result would be to significantly increase the recruit's chances of undergoing unsatisfactory service separation. If the base recruit has a predicted probability of unsatisfactory separation of 25% based on their observable characteristics without a moral waiver, an identical recruit with a moral waiver would have a predicted probability of unsatisfactory separation of 33.32%. The 8.32 percentage point increase in probability represents the 32.88% increase added by having a moral waiver.

When the type of moral waiver is considered it appears that minor moral waivers have a statistically insignificant effect on the probability of unsatisfactory separations in both the unrestricted and restricted models. This seems to suggest that moral waivers involving traffic and minor law infractions are not an indicator of service quality. Alternatively, this evidence may indicate that the Marine Corps policy of evaluating the whole person is an effective tool for screening applicants with minor offenses. The evidence seems to indicate that individuals with these types of waivers generally experience identical separation rates as those with no waivers.

[27] All percent changes in the probability of separation are computed by dividing the partial effect by the observed probability of unsatisfactory service separation in the sample, and then multiplying the result by 100%.

This does not seem to hold true for those requiring serious or substance waivers. The model predicts that both categories of waivers significantly increase an applicant's probability of unsatisfactory separation. Substance waivers have the largest effect on the waiver categories. In the unrestricted model, the addition of a substance waiver to the observable characteristics evaluated by the model increases the probability of unsatisfactory service by 29.49% or 0.00504. Again, these findings were consistent with the restricted model that found a 23.67 % or 0.00326 increase in probability. These increases are calculated while holding constant demographic, geographic, and cohort characteristics.

Individuals who received serious waivers, i.e. felonies or serious law violations, also had a higher probability of unsatisfactory separation. The unrestricted model suggests that having a serious waiver increases the odds of unsatisfactory service separation by 17.73% or 0.00303, while the restricted model suggests an increase of 15.69% or 0.00216. This effect is smaller than that of substance waivers, but still represents a significant finding. In the restricted sample, the increase was significant at the five percent level as apposed to the one percent level seen in the unrestricted sample. Both levels of significance are within the realm of accepted statistical significance. In the sample used in this study, a 15% decrease in unsatisfactory service separation would result in a real number reduction of 474[28] separations involving disciplinary actions.

B. LINEAR PROBABILITY INTERACTION MODELS

1. Model Development

In addition to the base model, a linear probability model was used to look at possible interactions between control variables. Prior research indicated that there were no statistically significant interactions between key background characteristics and moral waivers.[29] This study re-investigates this issue by estimating models with interaction

[28] Computed as unsatisfactory separations in sample (3,160) multiplied by the percent change in the probability of separation (15%).

[29] See Putka et al. (2004).

terms involving moral waivers and other observed characteristics. However, econometric research indicates that the magnitude of interaction effects estimated via probit or logit models may be miscalculated (Ai & Norton, 2003). Therefore, linear probability models (LPM) are estimated via Ordinary Least Squares instead, with the dependent variable indicating unsatisfactory separation and independent variables controlling for all observed background characteristics. In addition, I include an interaction of the moral waiver indicator with one of the independent variables. For each interaction, I estimated a different model. These estimations were carried out for both the restricted and unrestricted samples. Table 28 displays the interactions that were included in the LPM estimations:

Table 27. Interactions of Moral Waivers with Independent Variables

Interactions With No Statistical Significance	
Waiver Category (Substance, Serious, Minor)	Gender, Race, Age, AFQT Category, AFQT score, Educational Tier, DEP Time
Any Moral Waiver Indicator	Gender, Race, Age, AFQT Category, AFQT Score, MCD, DEP Time

2. Results

The findings were consistent with those of Putka et al. (2004), in that no interactions were found to be significant. Therefore, it appears that moral waivers do not interact with background characteristics, such as ability and demographics, in a way that exacerbates or mitigates their effect on unsatisfactory separations. The only exception involves the interaction between substance waivers and MCDs. The findings suggest that substance waivers from the 1st MCD had an increased likelihood of unsatisfactory service separation that was statistically significant to the 1% level in both the restricted and unrestricted models. The results seem to indicate that there might be an additive effect on unsatisfactory service for accessions from the North Eastern U.S. with substance waivers.

This interaction is significant to the one percent level and valid even when controlling for all other observed characteristics included in the baseline models.

Another significant interaction was the combination of applicants in educational tiers two or three who required a moral waiver. These individuals had an even higher probability of unsatisfactory service. The coefficient for the moral waiver indicator in the LPM was 0.007, the coefficient for the lower education tier was 0.009, whereas the coefficient for the interaction of these two indicators was 0.004, and marginally significant at the 10 percent level. There seems to be some evidence that the combined effect of lower education and a moral waiver exacerbates the probability of unsatisfactory service. One reason why the interaction term is only significant at the ten percent level may be due to the fact that there are only 2,827 individuals (out of 177,208) in the sample that posses a moral waiver and also belong in a low educational tier.

3. Interpretation

One key interaction that was not found to be significant was the combination of AFQT scores and moral waivers. In many studies, AFQT scores and categories are used as a proxy for aptitude, and the positive effects of AFQT scores on the quality of service may suggest that the effect of a moral waiver can be mitigated by choosing higher-ability recruits. However, the interaction between AFQT scores and moral waivers was not found to be statistically significant. This finding suggests that the mitigating effect of AFQT may be limited. Alternatively, this finding may be a direct result of the Marine Corps 'whole person' screening policy, which is effectively removing those with more than one risk factor. An applicant who requires a moral waiver and who also has a low AFQT score is less likely to have the moral waiver approved than an applicant with a high AQFT score. Therefore, the data at hand may not contain enough variation in AFQT scores and waiver categories to estimate the interaction effect.

C. THE EFFECT OF DRUG WAIVER ON DRUG SEPARATION

1. Model Development

Table 27 indicated that substance waivers had a much higher likelihood of unsatisfactory service separation. It is unclear though, why individuals with substance waivers are so much more likely to separate. It could be that these individuals re-offend while in service. Given the zero-tolerance policy and random drug tests, they would be more likely to be caught re-offending and forced to separate. Alternatively, these individuals could have certain intrinsic characteristics that make them more likely to both use drugs and also not perform satisfactorily. This section tries to separate these alternative hypotheses by investigating whether pre-service drug use is associated with a higher propensity for drug separation in the Marine Corps. In order to determine the effect a drug waiver has on an active duty member's propensity to separate for drug use, the unrestricted sample was used to ensure the maximum sample size. The same control variables were used as in the base model. The dependent variable, however, was defined to indicate separation from service for drug use.

2. Results

Table 29 presents the findings for the effect of moral waivers on drug related separations. The models were estimated using both the aggregate waiver categories (substance, minor, serious) and more detailed categories of waivers.

Table 28. Results on the Effect of Pre-Service Substance Waivers on Drug-Related Separations

Dependent variable: Drug-related Separations		
	Aggregate Waiver Categories	Detailed Waiver Categories
Substance Waiver	0.224	—
	(0.039)***	
	[0.00106]	
Minor Waiver	0.077	—
	(0.076)	
	[0.000]	
Serious Waiver	0.153	—
	(0.060)**	
	[0.00077]	
Marijuana waivers	—	0.149
		(0.025)***
		[0.000625]
Positive Drug Test	—	0.214
		(0.085)**
		[0.000895]
Other Drug Waiver	—	0.186
		(0.166)
		[0.001]
Serious Traffic Waiver	—	0.184
		(0.124)
		[0.001]
Minor Traffic Waiver	—	-0.001
		(0.088)
		[-0.000]
Minor Law Waiver	—	-0.014
		(0.078)
		[-0.000]
Serious Law Waiver	—	0.094
		(0.050)*
		[0.000]
Adult Felony Waiver	—	0.023
		(0.176)
		[0.000]
Juvenile felony Waiver	—	0.108
		(0.111)
		[0.000]
Female	-0.283	-0.282
	(0.121)**	(0.121)**
	[-0.001]	[-0.001]
Black	0.007	0.004
	(0.062)	(0.062)
	[0.000]	[0.000]
Other Race	-0.149	-0.150
	(0.061)**	(0.061)**
	[-0.001]	[-0.001]
Number of Dependents	-0.006	-0.006
	(0.105)	(0.105)
	[-0.000]	[-0.000]

Age	-0.018	-0.016
	(0.012)	(0.012)
	[-0.000]	[-0.000]
Education Tier 2 or 3	0.174	0.179
	(0.089)*	(0.089)**
	[0.001]	[0.001]
Enlistment bonus	-0.051	-0.044
	(0.115)	(0.115)
	[-0.000]	[-0.000]
AFQT Class 2	0.240	0.234
	(0.158)	(0.157)
	[0.001]	[0.001]
AFQT Class 3a	0.309	0.304
	(0.158)*	(0.158)*
	[0.002]	[0.002]
AFQT Class 3b	0.286	0.284
	(0.158)*	(0.157)*
	[0.001]	[0.001]
AFQT Class 4	0.481	0.493
	(0.246)*	(0.245)**
	[0.004]	[0.004]
0-29 days in DEP	0.145	0.135
	(0.052)***	(0.053)**
	[0.001]	[0.001]
30 to 90 days in DEP	0.035	0.034
	(0.053)	(0.053)
	[0.000]	[0.000]
4^{th} MCD	-0.482	-0.477
	(0.061)***	(0.061)***
	[-0.001]	[-0.001]
9^{th} MCD	-0.706	-0.696
	(0.074)***	(0.074)***
	[-0.002]	[-0.002]
8^{th} MCD	-0.720	-0.714
	(0.077)***	(0.077)***
	[-0.002]	[-0.002]
6^{th} MCD	-0.524	-0.524
	(0.057)***	(0.057)***
	[-0.001]	[-0.001]
12^{th} MCD	-0.667	-0.671
	(0.069)***	(0.069)***
	[-0.002]	[-0.002]
FY 1997 Cohort	0.546	0.513
	(0.109)***	(0.109)***
	[0.005]	[0.005]
FY 1998 Cohort	0.517	0.496
	(0.111)***	(0.111)***
	[0.005]	[0.004]
FY 1999 Cohort	0.512	0.482
	(0.104)***	(0.104)***
	[0.004]	0.004]
FY 2000 Cohort	0.415	0.376
	(0.100)***	(0.100)***
	[0.003]	[0.002]

FY 2001 Cohort	0.436	0.429
	(0.100)***	(0.100)***
	[0.003]	[0.003]
FY 2002 Cohort	0.398	0.392
	(0.101)***	(0.102)***
	[0.003]	[0.003]
FY 2003 Cohort	0.298	0.300
	(0.108)***	(0.108)***
	[0.002]	[0.002]
FY 2004 Cohort	0.189	0.184
	(0.112)*	(0.112)
	[0.001]	0.001]
Observations	136,907	136,889
Probability of unsatisfactory service	.0023739	.0023742

Notes: All regressions were estimated via Probit. Standard errors appear in parentheses, whereas marginal effects appear in square brackets. Recruits with non-moral waivers are excluded from all estimations.

* significant at 10% ** significant at 5% *** significant at 1%

3. Interpretation

Based on this model, the probability of a drug-related separation for a person with a substance waiver increases by 44.65% or 0.00106 over a person with no waivers. This increase in probability is significant at the one percent level. Comparing this result to the previous chance of separation under any unsatisfactory service reason, it appears that an applicant with a substance waiver has a higher probability of separating for drugs than any other non-EAS reason. Therefore, the evidence seems to suggest that a substance problem prior to entering military service is a strong predictor of drug-related unsatisfactory service separation.

This model also shows that an applicant receiving a serious moral waiver has a higher probability of separating for drugs than a non-waiver applicant. Having a serious waiver increases the probability of a drug related separations by 32.44% or 0.00077 (significant at the five percent level). This indicates that there may be a link between behavior that leads to both drug use and serious legal problems. The model did not identify a link between adult felony waivers and drug separation, but that is most likely due to the fact that there were only 657 observations with adult felonies in the sample.

This increase in probability of a drug related separation is also evident for those that enlisted under marijuana waivers. There is a 26.33% or 0.000625 increase in the probability of drug-related separation for individuals who required at least one marijuana waiver at enlistment. This increase is also significant at the one percent level and represents the largest single portion of moral waivers issued by the Marines Corps. In this sample 48,918 or the 71,963 individuals who required a moral waiver were marijuana waivers.

The moral waiver group that demonstrates the largest increase in drug-related separation required a waiver because they failed a drug test. This relatively small group representing 4,396 of the 71,963 applicants who required moral waivers represented a 37.70 % or 0.000895 increase in drug-related separations. The Marine Corps primary tool for identifying in-service drug use is the Command-screening program that requires all commands to randomly test between 10 to 40 percent of their Marines in a given year.[30] This is the same drug test that applicants failed upon enlistment that prompted them to receive a moral waiver for substance use.

[30] For a complete description of the DoN drug testing program refer to OPNAVINST 5340.4.

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V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

1. Effects of Waivers and the "Whole Person Concept"

The evidence in this study indicates that the 'whole person' concept is working for individuals that require traffic or minor law waivers to enlist. Additionally, it appears that individuals with both moral waivers and low aptitude or educational attainment are being screened adequately. However, the data does seem to indicate that those who enlist with moral waivers are more likely to separate for unsatisfactory service. In addition, those who receive drug waivers separate at a significantly higher rate than comparable individuals without those waivers. This suggests that the whole person concept may be missing key indicators of unsatisfactory service. Adjusting the policy of treatment of recruits that enter with moral waivers may save the Marine Corps substantial effort and money in the recruitment, training, and separation process of those who fail to meet performance standards. Not having to re-recruit a replacement for a Marine that was identified as having a significantly greater chance of not meeting their service obligation would ease some of the burden on the recruiting force.

2. The Effects of Drug and Serious Waivers on Drug Separations

The link between pre- and in-service behavior is most easily drawn for the case of drug use. It is harder to link pre-service offenses in other areas with any in-service behavioral and legal problems. In addition, the military's drug screening policies make it much easier to identify in-service infractions, relative to other behavior involving other (possibly illegal) activities. The study finds that individuals who receive drug waivers are more likely to use drugs while in service. However, the study also identifies a strong link between drug-related separations and individuals with serious law waivers. It could be the case that serious legal problems occur concurrently with drug use, however, at

enlistment the serious legal problem takes precedence. Alternatively, it could be that individuals with serious moral waivers have inherent behavioral problems that make them more likely to also use drugs.

It should be noted, though, that although the findings suggest that moral waiver recruits have a higher marginal propensity of unsatisfactory separation, in absolute terms, the majority of them are fitting Marines who complete their duties and careers satisfactorily. In light of these findings, this study recommends a policy that would allow for faster separation of individuals that come in with moral waivers to decrease the negative effects of unsatisfactory service separations. It is possible that by removing or providing preventive counseling to these higher-risk Marines may save money and create incentives for not re-offending while in service.

B. RECOMMENDATIONS

1. Enlistment Contracts for Moral Waiver Applicants that Provide an Alternate Separation Process

The administrative separations option for those designated as high risk should be placed in the hands of the battalion commander level. Moral waiver approval should be contingent on the applicant agreeing to immediate voluntary separation at the commander's discretion if they are found guilty of re-offending once on active duty. This provision should be triggered by either a conviction by courts marshal or Non-Judicial Punishment (NJP), but would not alter the right of the accused to appeal or request a courts marshal and would not restrict due process. This would be an administrative separation with the nature of discharge reflecting that decision. Wiping the slate clean for these applicants after a waiver is approved may not be in the best interests of the Corps.

There may be several legal issues that would require further research into this proposition. The contract would not alter the Marine's right to appeal any finding of guilt or remove their right to ask for a review by the board of Naval Corrections. Also the classification of separation would still be considered administrative and not pose any

undue hardship of the Marine after separation. Additionally, a comprehensive review of current DoD and DoN separations policies would need to be performed to ensure consistency with those directives.

Providing an expedited means for separation would not necessarily mean that a unit would receive replacements faster. Commanders would still have to weigh the costs and benefits for their unit of creating a vacancy in manning that may not be filled for an extended period of time. Units that receive high priority for manning issues may receive replacements in a very short period of time, units that as considered pro-share[31] may have a gap until the next scheduled replacement arrives. Expedited separation may not fill gaps any faster but it will provide commanders with the option to remove individuals who may negatively contribute to the morale and teamwork of a unit.

The overriding goal of this proposal is to give operational commanders another tool to deal with Marines that have already been given a second chance. These Marines were not only given the opportunity to correct their past deviance; they were also assigned mentors and taught the correct path while being exposed to the Marines Corps core values. Those that have been given the privilege of being a Marine and choose to re-offend should, at the commander's discretion, be removed from the ranks before they can corrupt others.

2. Preventive Counseling in the Marines Area of Previous Offense

The data suggests that there is a strong link between an individual's pre-service transgression and unsatisfactory service separations. Once the high-risk waiver categories have been identified, those who require those waivers could be asked to agree to additional counseling as a condition of the waiver approval. Often Marines move through the training pipeline and no one in their chain of command is aware that this Marine is at risk of drug or criminal involvement until it is too late. Identifying the high-risk Marine

[31] See Appendix D for an explanation of the Marine Corps Manning and Staffing precedence levels.

to commanders before they get into trouble would give leaders a chance to send the Marine to preventive counseling, provide extra mentoring, or place them on a monitoring program to head off trouble.

This policy, however, may unfairly label those who honestly admitted to pre-service transgression with a scarlet letter of sorts. If abused, young Marines with waivers could be subject to prejudgment or limited opportunity by leaders who may come to believe that it is only a matter of time before they re-offend. However, strict privacy policies and command involvement could mitigate any undue negative effects along these lines. This policy would also reinforce the separation of a Marine if they choose to re-offend after preventative counseling.

3. Additional Testing to Identify Non-Observable Risk factors

Psychological and personality testing could be instituted in order to monitor previously unobserved characteristics of quality of service. This process would be similar to the current Marine Corps Exit and Retention Census. To identify additional factors that are correlated with behavioral problems and drive the quality of service, all new accessions could be subjected to a battery of personality and physiological tests. These tests would aim to identify intrinsic values and characteristics that may be correlated with service quality. The current observable characteristics used to identify high-risk recruits only include demographics and cognitive factors. However, recent studies have been increasingly stressing the effect of non-cognitive factors on job market performance. In addition, current waivers provide only a crude measure of behavioral problems that may not be comparable across individuals. For instance, an applicant requiring a marijuana waiver who comes from a middle-class family in very liberal community with a very permissive approach to marijuana use does not necessarily posses the same propensity toward deviance than an applicant who requires the same waiver but comes from a more conservative society and family with strict anti-drug views. Clearly, the second individual may posses a stronger tendency toward deviant behavior as their drug use was in stark contradiction to their sociological norms, while the first applicant's drug use was consistent with the norms they were exposed to.

Testing for psychological and non-cognitive factors may pose a significant monetary challenge. However, due to the centralized nature of recruit processing, the Marine Corps would only need to establish two testing sites. Additionally the time required for testing could be small enough to fit into the processing phase of recruit training without the loss of valuable training days. Although the interpretation and analysis of this data may require extensive manpower analysis, the potential benefits in decreased attrition and increase in the overall quality of service could outweigh the initial costs of investigating underlying factors that predict quality service.

4. Recommended Areas for Further Study

Further study that examines the overall quality of service more closely by factoring in proficiency and conduct scores as well as fitness report data would provide a more complete picture of service quality. In addition, replications of this study would be beneficial, given the data shortcomings described earlier.

In addition, it may be necessary to study survival rates of Marines with moral waivers, in order to identify the highest risk periods in a Marine's career and help target efforts to reduce unsatisfactory service separations. A Naval Postgraduate School Thesis research done by CPT Christopher Distifeno on the United States Army indicates that soldiers with moral waivers actually have lower attrition rates through the first year of service when compared to non-waiver soldiers. However, this research also shows that moral waiver soldiers do attrite from the operating forces at higher rates after the first year of service. This study estimates that soldiers with moral waivers have a 4 percentage point higher attrition rate in the first term of service (Distifeno, 2008). Determining the Marine survival function could allow commanders to provide help at the most critical times in a Marine's career.

Further study would also be required to identify any legal issues associated with expediting the separation process. While preliminary research indicates that instituting an alternate separation process for Marines with moral waivers can be accomplished within the bounds of current DoD, DoN, and Uniform Codes of Military Justice statues, further research into possible case law and political issues is needed. This research

would also need to be done with respect to a specific policy. While alternate separation policies may be generally feasible, the specific details of that policy may trigger unforeseen due process issues.

Another area of study that could help focus efforts to reduce unsatisfactory service separation may be found in a study of duty station assignments and quality of service indicators. It is possible that assigning Marines with a high risk of unsatisfactory service to areas with high crime or gang activity may be affecting the likelihood of that Marine re-offending. If a link between duty station assignment and decreased service quality could be established, new assignment or intervention policies could be developed to address this issue.

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APPENDIX A. GUIDE LIST FOR TYPICAL OFFENSES

1. <u>Minor Traffic Offenses (Coded as Minor Waivers)</u>

- Blocking or retarding traffic.
- Careless driving.
- Crossing yellow line, driving left of center.
- Disobeying traffic lights, signs, or signals.
- Driving on shoulder.
- Driving uninsured vehicle.
- Driving with blocked vision.
- Driving with expired plates or without plates.
- Driving without license in possession.
- Driving without registration or with improper registration.
- Failure to have vehicle under control.
- Failure to keep to right or in lane.
- Failure to signal.
- Failure to yield right-of-way.
- Faulty equipment (defective exhaust, horn, lights, mirror, muffler, signal device, steering device, tailpipe, windshield wipers, and so forth).
- Improper backing: backing into intersection or highway; backing on expressway; backing over crosswalk.
- Improper blowing of horn.
- Improper parking: restricted area, fire hydrant, double parking, (excluding overtime parking).
- Improper passing: Passing on right; in no-passing zone; improper lane change; passing stopped school bus with flashing lights; pedestrian in crosswalk.
- Improper turn.
- Invalid or unofficial inspection sticker; failure to display inspection sticker.
- Leaving key in ignition.
- License plates improperly displayed or not displayed.
- Racing, drag racing, contest for speed.
- Speeding.
- Driving wrong way on one-way street.
- Failure to stop for or yield to pedestrian.
- Following too closely.
- Operating overloaded vehicle.
- Zigzagging or weaving in traffic.

NOTE: Consider offenses of similar nature and traffic offenses treated as minor by local law enforcement agencies as minor traffic offenses.

2. <u>Serious Traffic Offenses (Coded as Minor Waivers)</u>

- Driving with suspended or revoked license or without license.
- Leaving scene of accident (single vehicle) involving no personal injury and

- Failure to comply with officer's directions.
- Reckless driving (Fines $200 or less).

3. <u>Class 1 Minor Non-Traffic Offenses (Coded as Minor Waivers)</u>

- Curfew violation.
- Disturbing the peace.
- Drinking liquor or alcoholic beverages on train, plane, or other conveyance.
- Drinking in public (non-disorderly)
- Dumping refuse near highway, littering.
- Liquor or alcoholic beverages: unlawful possession, consumption in public place, or open container.
- Mischief (painting water towers, graffiti, throwing water-balloons).
- Purchase, possession, or consumption of alcoholic beverages by minor (underage drinking).
- Trespass on property (non criminal).
- Violation of fireworks law.
- Violation of fish and game laws.

4. <u>Class 2 Minor Non-Traffic Offenses (Coded as Minor Waivers)</u>

- Abusive language under circumstances to provoke breach of peace.
- Altered identification (driver's license, birth certificate, and so forth), when intent is to purchase alcoholic beverages.
- Committing or creating nuisance.
- Disorderly conduct: creating disturbance, boisterous conduct.
- Spinning wheels, improper start.
- Property damage is under $1000.
- Loitering.
- Damaging road signs.
- Disobeying a summons, or failure to pay a fine.
- Fighting, participating in a brawl.
- Illegal betting or gambling: operating illegal handbook, raffle, lottery, punch board, watching cockfight.
- Juvenile non-criminal misconduct: beyond parental control, incorrigible, runaway, truant, or wayward.
- Possession of indecent publications or pictures (other than child pornography
- Theft, shoplifting (value $100 or less): only if committed under 16 years of
- Unlawful assembly.
- Vagrancy.
- Vandalism: injuring or defacing public property or property of another; $200 or less.

NOTE: Consider offenses of a similar nature as minor non-traffic offenses.
In doubtful cases, apply the following rule:
If the maximum confinement under state or local law is 6-months, or less, treat the offense as a Class 2 minor non-traffic offense.

5. <u>Serious Offenses (Coded as Serious Waivers)</u>

- Adultery.
- Carrying concealed weapon; possession of brass knuckles.
- Check, worthless, making or uttering, ($500 or less).
- Conspiring to commit misdemeanor.
- Contempt of court (includes non-payment of child support or alimony required by court order).
- Failure to appear, failure to comply with a judgment, failure to answer (or offenses). Shooting out street lights; or similar offenses where damage is assessed at Assault consummated by battery.
- Child pornography offenses.
- Contributing to delinquency of minor (includes purchase of alcoholic beverages).
- Criminal trespass.
- Desecration of grave.
- Discharging firearm through carelessness or within municipal limits.
- Driving while drunk, impaired, intoxicated, or under the influence of alcohol or drugs.
- Drunk and disorderly and related offenses.
- Failure to stop and render aid after accident.
- Fornication.
- Indecent exposure.
- Indecent, insulting, or obscene language communicated directly or by telephone.
- Killing domestic animal.
- Leaving scene of accident (multiple vehicle) involving no personal injury and
- Property damage is under $1000.
- Liquor or alcoholic: unlawful manufacture or sale.
- Looting.
- Malicious/criminal mischief: throwing rocks on highway, throwing missiles at athletic contests, or throwing objects at vehicle.
- Petty larceny; embezzlement (value $500 or less).
- Possession of marijuana under 30 grams or steroids (requires District waiver)
- Prostitution/Solicitation.
- Reckless driving (when fine assessed is $201 or more).
- Removing property under lien.
- Removing property from public grounds.
- Resisting arrest, fleeing and eluding.
- Selling, leasing, or transferring weapons to minor or unauthorized individual.
- Slander.
- Shooting from highway or on public road.
- Stolen property, knowingly receiving (value $500 or less).
- Theft, shoplifting (value $500 or less). (If under age 16 and value is $100 or less, treat as class 2 minor non-traffic offense).
- Unlawful carrying of firearms; carrying concealed firearm.
- Unlawful entry.
- Negligent homicide.

- Use of telephone to abuse, annoy, harass, threaten, or torment another.
- Vandalism: injuring or defacing public property or property of another; over $200.
- Willfully discharging firearm so as to endanger life; shooting in a public without owner's consent (if intent is to permanently deprive owner of vehicle, consider as grand larceny under felony offenses below).
- Check, worthless, making or uttering ($501 or more)
- Wrongful appropriation of motor vehicle; joyriding.

NOTE: Consider offenses of comparable seriousness as serious offenses. Apply the following rule: If the maximum confinement under state or local law exceeds 6-months or is equal to or less than 1-year, treat offense as a serious offense.

6. Felony Offense (Coded as Serious Waivers)

- Aggravated assault; with dangerous weapon; assault intentionally inflicting great bodily harm; assault with intent to commit felony.
- Assault and battery on law enforcement officer or child under 16 years of age.
- Arson.
- Attempt to commit felony.
- Breaking and entering (all types).
- Bribery.
- Bigamy.
- Burglary.
- Carnal knowledge of child under 16. Criminal libel.
- Draft evasion.
- Extortion.
- Forgery; knowingly uttering or passing forged instrument (except for altered identification for purchase of alcoholic beverages).
- Grand larceny; embezzlement (value $501 or more).
- Housebreaking.
- Illegal drugs (See table 3-16 for determination of eligibility).
- Impersonating a police officer, civil official, military officer.
- Indecent acts or liberties with child under 16, molestation.
- Indecent assault.
- Kidnapping, abduction.
- Leaving scene of accident (single or multiple vehicle) involving personal injury and/or property damage is over $1000.
- Mail matter: abstracting, destroying, obstructing, opening, secreting, stealing, or taking.
- Mail, depositing obscene or indecent matter.
- Maiming; disfiguring.
- Manslaughter.
- Murder.
- Obstructing justice.
- Pandering.
- Perjury.

- Public record; altering, concealing, destroying, mutilating, obliterating, or removing.
- Rape.
- Robbery.
- Sodomy.
- Theft, shoplifting (value over $500).
- Riot.
- Sedition; soliciting to commit sedition.
- Stolen property, knowingly receiving (value over $500).

NOTE: Consider offenses of comparable seriousness as a felony. In doubtful offense as a felony cases, apply the following rule:
If maximum confinement under state or local law exceeds 1-year, treat as a felony
Are the applicant's demonstrated qualities indicative of successful service as a Marine?
Is the applicant's enlistment/reenlistment clearly in the best interest of the Marine Corps?
If there is any doubt, or the answer to any of the above questions is "no," a request for a waiver should not be processed. This decision must be made without regard to monthly production goals.

8. No Waiver Considered (Do not appear in Sample)

- Underage.
- Failure to meet ASVAB standards.
- Alien without proper USCIS documentation.
- Does not possess a social security card or other required verifying documents.
- Charges filed or pending, or any other unresolved judicial proceeding (to include pre-trial intervention or diversionary programs sanctions), resulting from an alleged violation of state, local, Federal, or territorial statutes .
- Applying as an alternative to judicial proceedings.
- Under criminal restraint or serving a sentence.
- Felony (excluding felonies involving single incident).
- Ninety days have not elapsed in cases involving:
    - Early release from parole or probation (See Note(s) 6A & 6B).
    - A period of confinement served as the result of a court's sentence (except for confinement served as punishment for conviction of non-felonious traffic related/traffic offenses by state statute i.e. Driving while drunk, impaired, intoxicated, or under the influence of alcohol or drugs).
    - As confinement served in lieu of payment of fine for minor non-traffic offenses.)
- Any criminal charges pending to include traffic violations against the applicant.
- Intoxicated or under the influence of alcohol or drugs at the time of application or at any stage of processing.

- Questionable moral character, history of alcohol or drug dependency/addiction, sexual perversion, history of anti-social behavior, body piercing, offensive branding, offensive tattoos, body mutilation or chronic, frequent, or active venereal disease or herpes.
- Trafficking, selling or trading illegal drugs (Including Cannabis).
- Court conviction, either as an adult or as a juvenile, for more than one
- A court conviction, adverse juvenile court adjudication, or self-admittal
- A conviction of any offense involving drugs (except simple possession 35 grams or less of cannabis or steroids).prescription drugs.
- A history of psychotic disorders, or a state of insanity at the time of application.
- Homosexual conduct, which is defined as a homosexual act, a statement by the applicant that demonstrates a propensity or intent to engage in homosexual acts, or a homosexual marriage or attempted marriage.
- Claims prior service but is unable to present written evidence.
- Receives retired or retainer pay from any branch of the Armed Forces.
- Receives disability compensation from any Federal or other agency/source.
- Conscientious objector or person with beliefs or convictions which would interfere with unrestricted assignments, regardless of Selective Service classification.
- A draft evader, including a person who receives a presidential pardon for draft evasion.
- A doctor, dentist, theologian, or graduate student pursuing a course of study leading to one of these professions.
- A member of any other naval or military organization or Delayed Entry Program (DEP) (other than the Marine Corps), Federal or state, active or reserve (including the National Guard) unless they present a valid, completed conditional release, DD Form 368, from their service or unit, as appropriate, and ship direct or enlist into a Marine Corps component of equal or greater mobilization potential.
- Applicants with 3 or more dependents (including illegitimate) children are not eligible for enlistment into the USMC. Applicants with 4 or more dependents (including illegitimate) children are not eligible for enlistment into the USMCR.
- In DEP felonies.
- Driving convictions involving drugs other than cannabis, steroids, and
- Individuals with 10 or more Class 2 non-traffic offenses or 6 or more
- Prior service Marine reenlistment applicants who have any post enlistment serious offenses or a combination of 1 felony and 4 serious offenses.

APPENDIX B. WAIVER AUTHORITY LEVELS

WAIVER AUTHORITY DELEGATED BELOW THE CG, MCRC		
RULE	**Column A**	**Column B**
	If an applicant has an enlistment prohibition of: **(Notes 1-4)**	Waiver Authority
1	-up to four minor traffic offenses, one serious traffic offenses, or three Class 1 minor non-traffic offenses or one Class 2 mincr non-traffic offenses	No waiver required. **(Note 6)**
	- dependent (spouse only)	
2	-five or more minor traffic, two or more serious traffic, and/or four or more Class 1 minor non-traffic offenses; and/or two to five Class 2 minor non-traffic; and up to two serious offenses (not including Possession of MJ/Steroids)	**CO Recruiting Station**
	-PreDEP Marijuana (1-50x), Steroids or prescription drug use (see para 3254.5c)	
	-**One** illegitimate child **USMC/USMCR** (no custody or support)	
	-Legally Separated with **no minor** dependents **USMC/USMCR**	
	-Married with One Child **USMCR** (includes those legally separated by court order) for enlistment **USMCR** only	
3	-Six to nine Class 2 minor non-traffic and or three to five serious offenses, **Felony Offense** reduced to lesser offense (i.e. Felony arrest to Serious Offense conviction/adjudication)	**CO Marine Corps District**
	-PreDEP Marijuana (51-200x), all other preservice drug usage not in rule 2 if over 6 months prior to DEP.	
	-Positive DAT test at MEPS	
	-InDEP use Marijuana/Steroids (includes USMC/other services DEP)	
	-**Two** illegitimate children **USMC/USMCR** (no custody or support)	
	-**One or Two** Illegitimate child(ren) **USMC/USMCR** (no custody but pays court ordered child support)	
	-Married applicants with spouse and one child **USMC**	
	-Married applicants **USMC** who are legally separated (by Court Order) with one child	
	-Married applicants **USMCR** who are legally separated (by Court Order)with two children	
	-Divorced applicants with one child **USMC/USMCR** (court ordered support)	
	-Married/Legally Separated/Divorced with **non-minor** dependents	
4	-InDEP use of drugs(other than Marijuana/steroids) (Notes 6 & 7)	**CG Recruiting Region** **(Note 5)**
	-One Felony Offense	
	-PreDEP Marijuana (201+), all other preservice drug use not in rule 2 and 3 above if use was during the preceding six months of DEP-In	
	-Height/Weight standards(Male: Body fat **18%** or less. Female: Body fat **26%** or less)and pass the IST **(Ship Only)**	
	-Married with two children **USMCR**	
	-Divorced with two children (court ordered support) **USMC/USMCR**	
	-Divorced with three children (court ordered support) **USMCR**	

Note 1: See Chapter 3, Part **E** regarding Drug disqualification
Note 2: See Chapter 3, Part **H** regarding Moral disqualification
Note 3: See Chapter 3, Part **G** regarding Ht/Wt disqualification
Note 4: See Chapter 3, Part **C** regarding Dependency disqualification
Note 5: SUB-DELEGATION OF WAIVER AUTHORITY IS NOT AUTHORIZED
Note 6: Peyote use for Native Americans Ref (Table 3-5 page 3-63)
Note 7: Includes IN-DEP USMC and other service DEP

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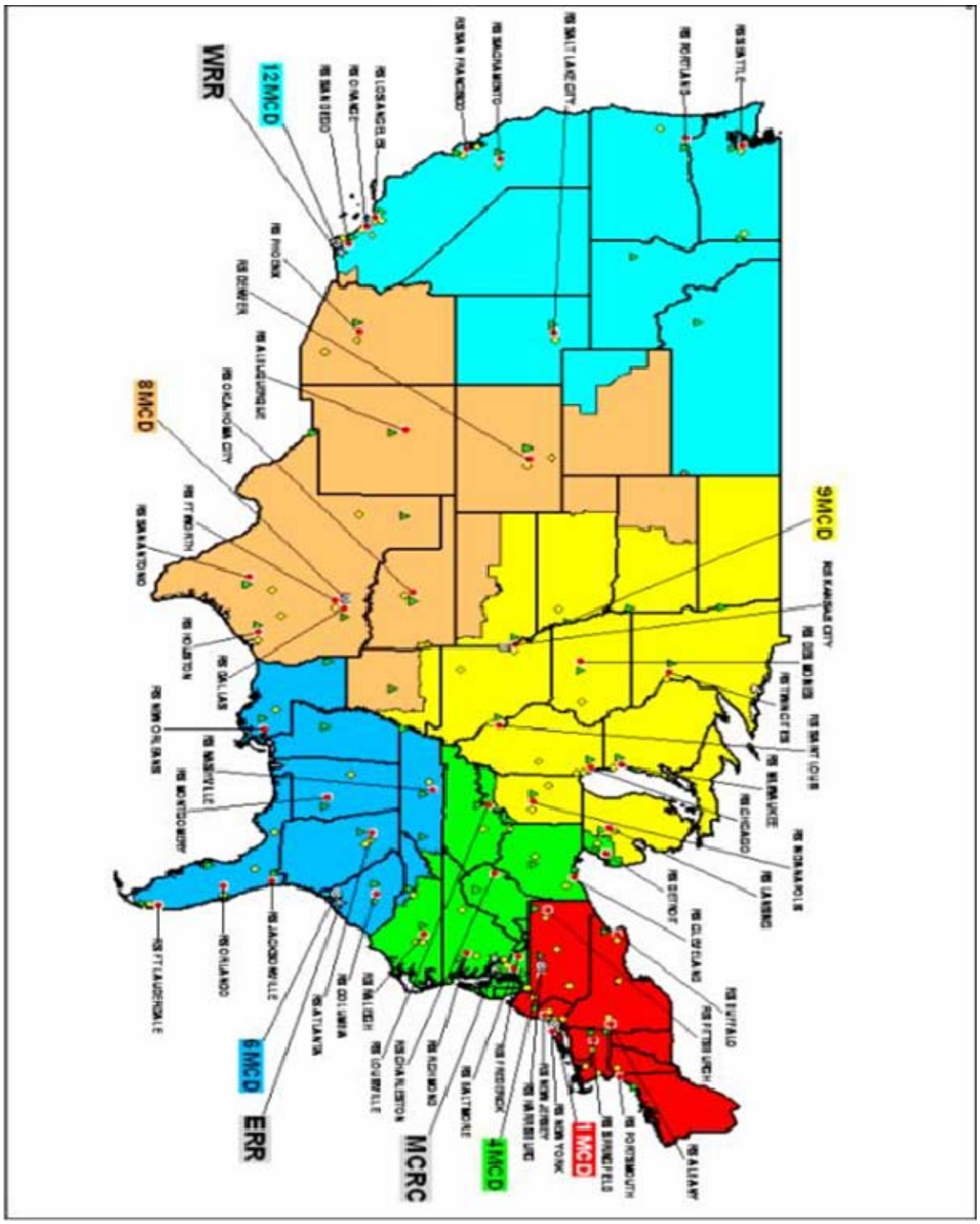
APPENDIX C. MARINE CORPS RECRUITING COMMANDS



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APPENDIX D. MARINE CORPS MANNING AND STAFFING PRECEDENCE LEVELS

1) Excepted Command: Excepted commands will be manned and staffed at 100 Percent of chargeable table of organization and equipment (T/O&E) by grade and military occupational specialty (MOS), subject to inventory availability.

- Marine Corps Recruiting Command (District and Below)
- Marine Corps Embassy Security Command
- HMX-1 (Executive Support and Other Support)
- Active Duty in Support of Reserves (Regiments/Groups and below)
- MEU Command Elements
- Wounded Warrior Regiment Headquarters
- Wounded Warrior Battalion East
- Wounded Warrior Battalion West
- 1st Marine Special Missions Training Branch MarForSoc
- 2d Marine Special Missions Training Branch MarForSoc
- Headquarters 1st Marine Special Operations Battalion MarForSoc
- Headquarters 2d Marine Special Operations Battalion MarForSoc
- Headquarters Marine Special Operations School MarForSoc
- Intelligence Company Marine Special Operations Support Group MarForSoc
- Marine Special Operations Company A 1st Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company B 1st Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company C 1st Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company D 1st Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company F 2d Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company G 2d Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company H 2d Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company I 2d Marine Special Operations Battalion MarForSoc
- Marine Special Operations Company K 2d Marine Special Operations Battalion MarForSoc

2) Priority Command: Priority commands will be manned and staffed at 95 percent of chargeable T/O&E by grade and MOS. They will be staffed at 100 percent of that manning level, subject to inventory availability.

- External Commands
- Formal Schools
- HQMC Departments
- Marine Corps Recruiting Command Headquarters (UIC MS5601)
- Marine Corps Security Force Battalion
- Active Duty in Support of Reserves (Division HQ, Wing HQ, and MLG HQ)
- Marine Corps Recruit Depots
- Marine Barracks, Washington, DC (Ceremonial Support Only)
- Marine Cryptology Support Battalion (MCSB)
- Combat Logistics Companies (CLCs)
- MEF Command Elements
- Infantry Battalions
- Flying Squadrons
- Reconnaissance Battalions
- Radio Battalions
- CBIRF
- Blue Angels Support
- Bands
- Aviation Training Squadrons
- Combat Logistics Battalion (CLB) 11 (11TH MEU)
- Combat Logistics Battalion (CLB) 13 (13TH MEU)
- Combat Logistics Battalion (CLB) 15 (15TH MEU)
- Combat Logistics Battalion (CLB) 22 (22^{d} MEU)
- Combat Logistics Battalion (CLB) 24 (24TH MEU)
- Combat Logistics Battalion (CLB) 26 (26TH MEU)
- Combat Logistics Battalion (CLB) 31 (31st MEU)
- Combat Service Support Group 3 (CSSG-3), 3d MLG
- Exercise Support Division, MAGTF Training Command
- Tactical Training and Exercise Control Group
- ANGLICO
- Headquarters Marine Special Operations Advisory Group MarForSoc
- Marine Special Operations Advisory Group Co A MarForSoc
- Marine Special Operations Advisory Group Co B MarForSoc
- Headquarters Marine Special Operations Support Group MarForSoc
- Headquarters Marine Forces Special Operations Command
- Logistics Company Marine Special Operations Support Group MarForSoc
- Support Company Marine Special Operations Support Group MarForSoc
- Detachment W Marine Special Operations Support Group Marine Special Operations Battalion

3) Proportionate Share (Pro Share) Command: Pro share commands are those units, other than Excepted or Priority that will receive fair share apportioned manning and staffing. Pro share units will absorb manning and staffing fluctuations as structure requirements and inventory change.

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